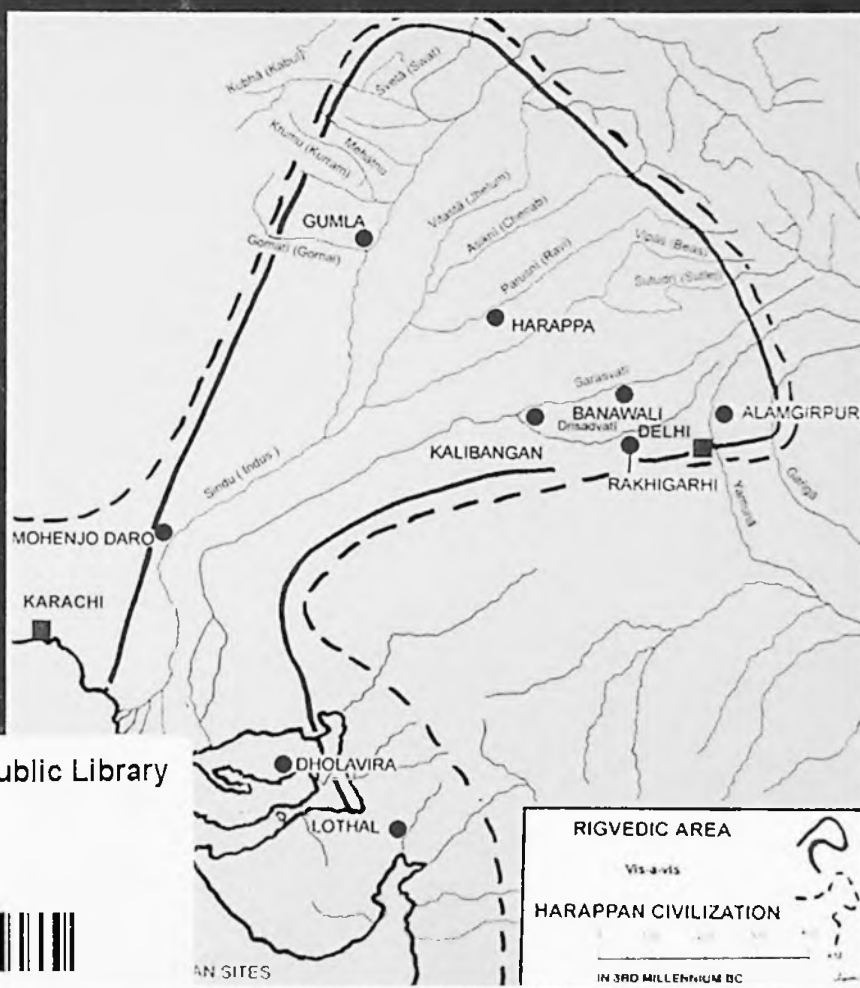


THE RIGVEDIC PEOPLE

'Invaders'?/'Immigrants'?
or Indigenous?

Evidence of Archaeology and Literature



Amir-ud-daula Public Library

E

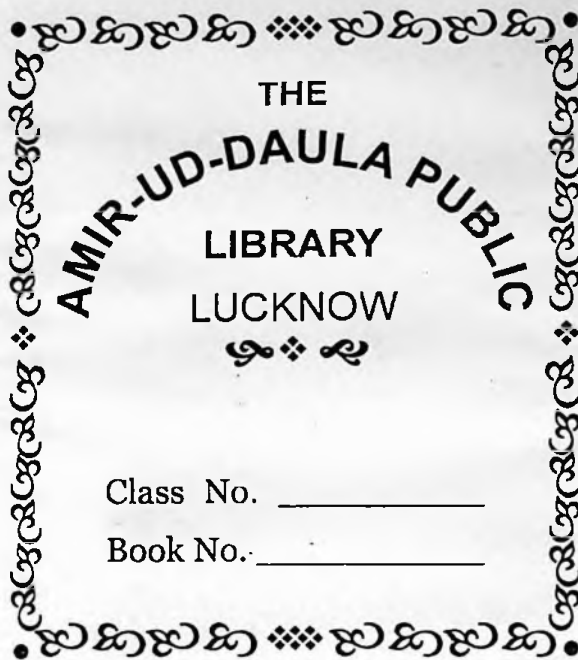
934.02

L 15R



23061R

B.B. Lal



THE
AMIR-UD-DAULA PUBLIC
LIBRARY
LUCKNOW

Class No. _____

Book No. _____



The
RIGVEDIC PEOPLE

'Invaders'?'/'Immigrants'?
or Indigenous?

Evidence of Archaeology and Literature



Aryan Books International

New Delhi



The
RIGVEDIC PEOPLE

'Invaders'?/'Immigrants'?
or Indigenous?

Evidence of Archaeology and Literature

B.B. Lal



उपहार स्वरूप
Gifted by

राजा राममोहन राय पुस्तकालय प्रतिष्ठान

RAJA RAMMOHUN ROY
LIBRARY FOUNDATION

BLOCK DD-34 SECTOR-1 SALT LAKE
KOLKATA - 700 064



THE RIGVEDIC PEOPLE 'Invaders'? 'Immigrants'? or Indigenous?

ISBN: 978-81-330-5355-5 (HB)

978-81-330-5362-2 (PB)

© B.B. Lal, 2015

All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic and mechanical, including photocopy, recording or any other information storage and retrieval system or otherwise, without written permission from the publisher.

Published in 2015 by

Aryan Books International

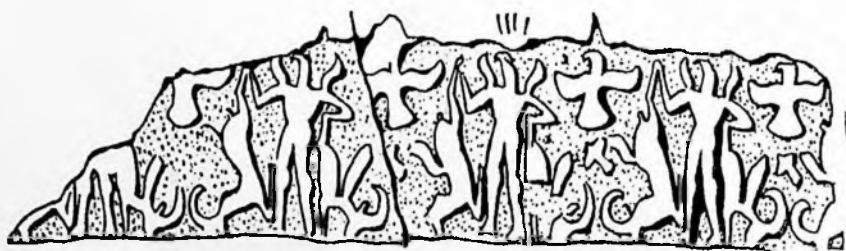
Pooja Apartments, 4B, Ansari Road, New Delhi-110 002 (India)

Tel.: 23287589, 23255799; Fax: 91-11-23270385

E-mail: aryanbooks@gmail.com

www.aryanbooks.co.in

Designed and Printed in India at
ABI Prints & Publishing Co., New Delhi.





*Dedicated to
the sacred memory of
Shri Aurobindo and Swami Vivekananda
who long ago affirmed that
the R̥gvedic people were indigenous and
not invaders.*

215/16

1800/2

R.R.M.

Preface



Isn't it an occasion to congratulate the National Council of Educational Research and Training (NCERT), a Government of India organization which is entrusted with the task of preparing textbooks for school-going children, to have finally come out of its shell and admit that the theory of 'Aryan Invasion' of India is untenable (Textbook in History for Class XII, *Themes in*

Indian History, Part I, New Delhi, January 2010. p. 18)?

But the engrained mindset for resisting the whole truth persists, as reflected by the following statement on p. 28 of the same book: "There were several developments in different parts of the subcontinent during the long span of 1500 years following the end of the Harappan Civilization. This was also the time during which the *Rigveda* was composed by people living along the Indus and its tributaries."

The *Rigveda* refers to the river Sarasvatī a number of times, which means that it was an active river during that period. Combined evidence of archaeology, radiocarbon method of dating, hydrology and other allied sciences has established that the Sarasvatī dried up around 2,000 BCE (see p. 122). Thus, the



Rigveda has got to be earlier than 2,000 BCE. How much earlier? It is anybody's guess. However, at least a 3rd-millennium BCE horizon is indicated.

I had presented the above-mentioned view long ago (Lal 2005a: 74), but it is a pity that NCERT has consciously ignored it. May it be hoped that it makes amends even now?

There is yet another aspect which needs to be highlighted. The *Rigveda* also gives a very good idea of the territory occupied by the *Rigvedic* people. Verses 5 and 6 of *Sūkta* 75 of *Maṇḍala* X refer to the entire area lying between the Gaṅgā-Yamunā on the east and the Indus and its western tributaries on the west. It was this very area that was occupied by the Harappan Civilization during the 3rd millennium BCE, viz. the time of the *Rigveda*. Clearly, therefore, the Harappans are none other than the Vedic people themselves.

Further, C-14 dates for Bhirrana, a site in the upper Sarasvati valley, show that the roots of the Harappan Civilization go back to 6th-5th millennia BCE (p. 55), which implies that the Harappans/Vedic people were deeply rooted in the Indian soil. **To call them aliens is a sheer travesty of truth.**

How long shall we continue to blindfold ourselves?

POSTSCRIPT

There are quite a few sub-topics related to the main topic of this book and I would like the reader to know my views on the same. Hence, I have added at the end a few Appendices, drawing them from my previously published books.

Thus, Appendix I relates to the question whether or not some Vedic people, besides being indigenous, emigrated to Western Asia in the 2nd millennium BCE.

The late Professor Possehl, in a recent paper, criticized my identification of certain features at Kalibangan as 'fire-altars'. He calls them 'cooking hearths', which to my mind is basically wrong. Appendix II deals with this issue.

Much hue and cry is made that there are fundamental differences between the Harappan Civilization and the culture depicted in the Vedas. This stand is incorrect and is the subject-matter of Appendix III.



Finally, the late Sir Mortimer Wheeler had declared (1947) that there was an 'ultimate extinction' of the Harappan Civilization. The fact of the matter is that while the urban characteristics of this civilization began to disappear (for various reasons) around 2,000 BCE, the basic elements of the culture continued and are discernable even today in the life of rural India, which accounts for more than ninety percent of the population. This is the subject-matter of Appendix IV.

New Delhi
Vijaya Daśamī,
October 3, 2014

B.B. Lal





<i>Preface</i>	<i>vii</i>
<i>Acknowledgements</i>	<i>xiii</i>
<i>List of Illustrations</i>	<i>xv</i>
1. Introductory	1
2. The 'Aryan Invasion' Theory: An In-depth Analysis	10
3. The 'Aryan Immigration' Alternative Too Under Scanner	19
4. A Review of the Evidence of Flora Supposedly Supporting the 'Aryan Immigration' Thesis	34
5. Identification of the Sarasvatī: The River par excellence (' <i>Naditamā</i> ') during the Ṛigvedic Times	41
6. From Pit-dwellings to Fortified Cities: The Evolution of Civilization in the Sarsvatī Basin	49
1. Introductory	49
2. Stage I: The Pit-dwellers	50
A. Bhirrana	50
B. Kunal	56
C. The Cholistan Region	57



3. Stage II: They Emerge Out of Pits and Start Building on Land-surface	61
A. Bhirrana	61
B. Kunal	62
C. Rakhigarhi	65
D. Dhalewan	71
4. Stage III: The Concept of a Peripheral Wall Around the Settlement Comes into Being	71
A. Kalibangan	72
Chronology	85
B. Banawali	87
5. Stage IV: Finally, 'The Citadel' and 'The Lower Town': Full-fledged Urbanization	89
A. Banawali	89
B. Kalibangan	93
7. The Civilization in the Sarasvatī Basin vis-à-vis the <i>Rigveda</i>	118
8. In Retrospect and Prospects	124
Appendices	
I: Did Some Vedic People Emigrate Westwards, Out of India?	127
II: Let Not Preconceived Notions Blur Our Vision: The Case of Kalibangan 'Fire-altars'	135
III: An Examination of Objections Against the Vedic-Harappan Equation	144
IV: The Continuity of Indian Civilization	156
<i>Bibliography</i>	171
<i>Index</i>	177



Acknowledgements



My son, Air Vice Marshal (Retd.) Rajesh Lal, has discussed with me the various aspects of this book and has given some very valuable suggestions. He has also helped me in proof-reading. As usual, my wife, Kusum, has been a source of inspiration. Shri S.K. Sharma has prepared a number of illustrations incorporated in the book. Shri Vishnu Kant has helped in preparing the Index. Finally, the publisher, Shri Vikas Arya, has given willing cooperation in bringing out the book.

To all of them my grateful thanks are due.





List of Illustrations

	<i>Page No.</i>
1.1 Indo-European Homeland: Some hypotheses.	4
3.1 Temple at Togolok-21, Margiana. (Courtesy V.I. Sarianidi).	20
3.2 Gonur, Margiana: Plan of the 'Citadel'. (Courtesy V.I. Sarianidi).	22
3.3 Bactria: Composite stone figure of a lady. (Courtesy V.I. Sarianidi).	23
3.4 Bactria: Chlorite and gold-leaf representation of a feline, with semi-precious stone inlay. (Courtesy V.I. Sarianidi).	24
3.5 Bactria: Silver ceremonial axe with parts covered with gold lamina. (Courtesy V.I. Sarianidi).	25
3.6 Impression of a cylinder seal from Gonur-I. (Courtesy V.I. Sarianidi).	26
3.7 Cylinder seal from Togolok-21 and its impression. (Courtesy V.I. Sarianidi).	27
3.8 Gonur, Margiana: Abandoned skeleton of a horse, mistaken by Sarianidi to represent	29



	the <i>aśvamedha</i> (horse sacrifice). (Courtesy V.I. Sarianidi).	
3.9	Distribution of the motif 'man-bird with hit-animals'. (Courtesy V.I. Sarianidi).	30
3.10	Distribution of 'diminutive columns' and their probable prototypes in the Syrian- Hittite world. (Courtesy V.I. Sarianidi).	31
3.11	Antennae-hilted swords of copper.	31
3.12	Copper Hoards from the Gangetic valley, India.	32
4.1	Close-up of <i>Aśvattha</i> leaves.	35
4.2	Bichrome painting on pottery from Kunal, depicting the <i>mayūra</i> (peacock) and <i>aśvattha</i> (peepal) leaves. Ca. 3,000 BCE. (Courtesy J.S. Khatri and M. Acharya).	36
4.3	Humped bull (<i>vaṛiṣabha</i>) on a Harappan seal. Ca. 2,500 BCE.	37
4.4	<i>Mayūra</i> (<i>Pavo cristatus</i>). Cf. Fig. 4.2 for its depiction on pottery around 3,000 BCE.	39
5.1	The Sarasvatī Basin in the 3rd millennium BCE.	45
5.2	Lower Sindh and Kachchha in the 3rd millennium BCE. (After Louis Flam 1999).	46
5.3	Drainage pattern of the Vedic Sarasvatī in the Himalayas. (After V.M.K. Puri and B.C. Verma 1998).	47
6.1	Bhirrana: Dwelling-pits, Stage I. (Courtesy ASI).	50
6.2	Bhirrana: Close-up of a rammed floor with hearth, Stage I. (Courtesy ASI).	51
6.3	Bhirrana: Mud Applique Ware, Stage I. (Courtesy ASI).	53
6.4	Bhirrana: Deep Incised Ware, Stage I. (Courtesy ASI).	54
6.5	Cholistan: Hakra Incised Ware, Stage I. (After Mughal 1997).	58
6.6	Cholistan: Hakra Applique Ware, Stage I. (After Mughal 1997).	59
6.7	Cholistan: Lithic material (Nos. 1-46) associated with the Hakra Wares; beads of	60



terracotta and stone; and bits of copper and shell pieces; all belonging to Stage I. (After Mughal 1997).	
6.8 Kunal: Silver ornaments, Stage II. (Courtesy J.S. Khatri and M. Acharya).	63
6.9 Kunal: Spiralled bangle, silver, Stage II. (Courtesy J.S. Khatri and M. Acharya).	64
6.10 Kunal: Discular beads of silver, having perforation along the diameter, Stage II. (Courtesy J.S. Khatri and M. Acharya).	65
6.11 Lothal: Discular beads of gold, having perforation along the diameter. Stage IV. (Courtesy ASI).	66
6.12 Rakhigarhi: General Plan of the site. (After A. Nath).	67
6.13 Kalibangan: Plan of peripheral walls of Stage III. (Courtesy ASI).	68
6.14 Kalibangan: In a small section on the northern side are seen two successive inner faces of the peripheral wall of Stage III, overlain by the peripheral wall of Stage IV. (Courtesy ASI).	69
6.15 Kalibangan: A view of the southern peripheral wall of Stage III. (Courtesy ASI).	73
6.16 Kalibangan: General view of the structures of Stage III. (Courtesy ASI).	74
6.17 Kalibangan: Overground and underground cooking ovens, Stage III. (Courtesy ASI).	74
6.18 Kalibangan: Lane with adjacent houses, Stage III. (Courtesy ASI).	75
6.19 Kalibangan: Mud Applique Ware, Stage III. (Courtesy ASI).	76
6.20 Kalibangan: Incised Ware, Stage III. (Courtesy ASI).	77
6.21 Kalibangan: Some pottery types of Stage III. (Courtesy ASI).	78
6.22 Kalibangan: A tall cylindrical vase and other pottery of Stage III. (Courtesy ASI).	79



6.23	Kalibangan: Terracotta model of a cot, with decorated bed-sheet, Stage III. (Courtesy ASI).	80
6.24	Kalibangan: An agricultural field showing criss-cross pattern of furrows, Stage III. (Courtesy ASI).	81
6.25	Kalibangan: Even today the villagers furrow their agricultural fields in a criss-cross pattern.	81
6.26	Around Kalibangan village, today. A field with mustard plants in the widely distanced furrows and those of gram in the others.	82
6.27	Kalibangan: Faulted strata, resulting from an earthquake which brought to an end the Stage III settlement. (Courtesy ASI).	83
6.28	Kalibangan: Faulted walls and layers of Stage III settlement, resulting from an earthquake. (Courtesy ASI).	84
6.29	Banawali Excavations (after R.S. Bisht).	87
6.30	Banawali: Section across the moat, Stage IV. (Courtesy ASI).	90
6.31	Kalibangan: Site-plan of Stage IV. (Courtesy ASI).	91
6.32	Kalibangan: The widest street in the Lower Town, Stage IV. (Courtesy ASI).	92
6.33	Kalibangan: Another street in the Lower Town, Stage IV. (Courtesy ASI).	94
6.34	Kalibangan: A drain discharging into a soakage jar embedded in the street outside the house, Stage IV. (Courtesy ASI).	95
6.35	Kalibangan: Successive floors of clay with soling of terracotta nodules and charcoal, Stage IV. (Courtesy ASI).	96
6.36	Kalibangan: Floor of kiln-fired tiles bearing a design of intersecting circles, Stage IV. (Courtesy ASI).	97
6.37	Kalibangan: A 'fire-altar' in a house in the Lower Town, Stage IV. (Courtesy ASI).	98
6.38	Kalibangan: A view of the entrance in the southern side of the Citadel, Stage IV. (Courtesy ASI).	99



6.39	Kalibangan: A row of seven 'fire-altars' in the southern half of the Citadel, Stage IV. (Courtesy ASI).	100
6.40	Kalibangan: Brick-lined sacrificial pit with bones, Stage IV. (Courtesy ASI).	101
6.41	Obverse and reverse of a terracotta 'cake'. On one side is shown a horned deity and on the other an animal pulled by a man with a rope, Stage IV. (Courtesy ASI).	102
6.42	Harappa: A terracotta tablet, depicting the Śiva-like seated figure (right) and a person attempting to kill a buffalo, perhaps as a sacrifice, Stage IV. (Courtesy J.M. Kenoyer).	103
6.43	Kalibangan: Partition wall of the Citadel with a tower (left) and a brick-on-edge pathway (front), Stage IV. (Courtesy ASI).	104
6.44	Kalibangan: Grave 29, Stage IV. (Courtesy ASI).	105
6.45	Kalibangan: Burial Type III, Stage IV. (Courtesy ASI).	106
6.46	Kalibangan: Four views of a clay sealing, bearing impressions of seals, reeds and knotted thread, Stage IV. (Courtesy ASI).	108
6.47	Kalibangan: A seal and its impression, Stage IV. (Courtesy ASI).	109
6.48	Kalibangan: Terracotta sealings with identical legend, Stage IV. (Courtesy ASI).	110
6.49	Kalibangan: Inscribed potsherd. Overlap of the letters shows that the direction of writing in the Harappan script was from right to left, Stage IV. (Courtesy ASI).	111
6.50	Kalibangan: Terracotta bull, Stage IV. (Courtesy ASI).	112
6.51	Kalibangan: Bronze bull, Stage IV. (Courtesy ASI).	113
7.1	Appearance of Bata-Markanda Divide, as a result of which the course of the Sarasvatī was diverted. (After V.M.K. Puri and B.C. Verma 1998).	120



7.2	Map showing a correlation between the Rigvedic area and the spread of the Harappan Civilization, in the 3rd millennium BCE.	121
Apx. I.1	Photocopy of the relevant Sanskrit text, from the <i>Baudhāyana Śrautasūtra</i> .	131
Apx. I.2	Migration of the Vedic people westwards, as mentioned in the <i>Baudhāyana Śrautasūtra</i> .	133
Apx. II.1	Kalibangan: Site-plan of Stage IV (Mature Harappan). (Courtesy ASI).	136
Apx. II.2	Kalibangan: A 'fire-altar' in a house in the Lower Town, Stage IV (Mature Harappan). (Courtesy ASI).	137
Apx. II.3	Kalibangan: A row of seven 'fire-altars' in the southern half of the Citadel, Stage IV (Mature Harappan). (Courtesy ASI).	138
Apx. II.4	Kalibangan: Plan of a part of the Citadel. Here one sees the seven 'fire-altars', a well, a bathing platform and a U-shaped cooking hearth, Stage IV (Mature Harappan). (Courtesy ASI).	139
Apx. II.5	Kalibangan: A cooking hearth in a house in the Lower Town, Stage IV (Mature Harappan). (Courtesy ASI).	140
Apx. II.6	Kalibangan: A cooking hearth in another house in the Lower Town, Stage IV (Mature Harappan). (Courtesy ASI).	141
Apx. II.7	Kalibangan: Yet another cooking hearth in the Lower Town, Stage IV (Mature Harappan). (Courtesy ASI).	142
Apx. III.1	Lothal: Terracotta horse, Stage IV. (Courtesy ASI).	149
Apx. III.2	Rakhigarhi: Terracotta wheel. The painted lines radiating from the central hub and reaching the circumference clearly represent the spokes of the wheel, Stage IV. (Courtesy ASI).	151
Apx. III.3	Banawali: Terracotta wheels showing the spokes in low relief. The specimen on the left is worn out but the spokes may still be seen.	152



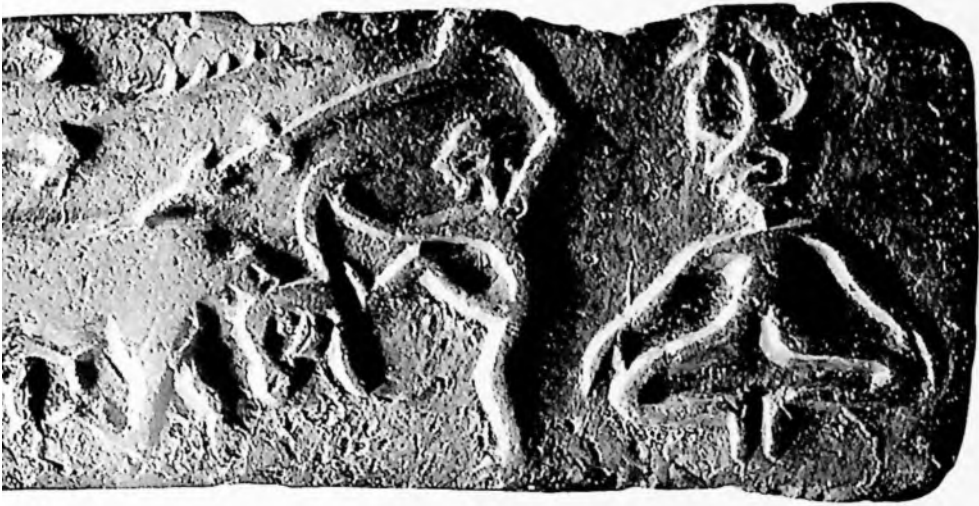
The specimen on the right, though broken, shows the spokes very clearly. Stage IV. (Courtesy ASI).

- Apx. IV.1 Air Marshal T.M. Asthana and his wife Kiran. Mark the streak of vermilion (*sindūra*) in the medial partition-line of the hair (*māṅga*) of the lady, which is a sign of her marital status. 157
- Apx. IV.2 Nausharo (Pakistan). A painted terracotta female figure, ca. 2,800-2,600 BCE. The yellow colour on the ornaments suggests that these were made of gold. The hair is black, while the red colour on the line of partition of the hair indicates the use of vermilion. 158
(Courtesy J.-F. Jarrige and J.M. Kenoyer).
- Apx. IV.3 Mohenjo-daro: The famous bronze statuette of a 'dancing girl', wearing spiralled bangles on the upper left arm. Mature Harappan. 158
- Apx. IV.4 A lady wearing spiralled bangles. 159
- Apx. IV.5 Mohenjo-daro: Gold cone. Mature Harappan. 159
- Apx. IV.6 A newly married lady, on the right, wearing a conical ornament on the head (covered by the *dupaṭṭā*). She also wears bangles all over her arms. 159
- Apx. IV.7 Harappa: A three-in-one toiletry gadget, copper. Mature Harappan. 160
- Apx. IV.8 A modern three-in-one toiletry gadget. 160
- Apx. IV.9 Lothal: A vase, the painting on which most probably depicts the folk-tale of 'The Thirsty Crow'. Mature Harappan. (After S.R. Rao). 161
- Apx. IV.10 Mohenjo-daro: Impression of a seal depicting a seated figure surrounded by animals, believed to be Śiva in his aspect of Paśupati (Lord of animals). Mature Harappan. 162
- Apx. IV.11 Kalibangan: Terracotta *liṅga-cum-yoni*. Stage IV (Mature Harappan). (Courtesy ASI). 162
- Apx. IV.12 *Śivaliṅga-cum-yoni* in a modern temple. From the overhead pitcher water-drops keep on dripping on the *liṅga*. 163



- Apx. IV.13 Harappa: Terracotta tablet, depicting the Śiva-like seated figure (right) and a person attempting to kill a buffalo, perhaps as sacrifice. Mature Harappan. (Courtesy J.M. Kenoyer). 164
- Apx. IV.14 Terracotta figures in yogic *āsanas*. 1-4, from Harappa; 5-6, from Mohenjo-daro. Mature Harappan. 164
- Apx. IV.15 Mohenjo-daro: Limestone statue of a 'priest'. The half-closed eyes are indicative of *dhyāna-mudrā* (meditative pose). Mature Harappan. 165
- Apx. IV.16 A terracotta figure greeting with *Namaste*. Mature Harappan. 166
- Apx. IV.17 Dhalewan: Terracotta figure of a bull engraved with a *triśūla* (trident)-mark on the hip, Stage IV (Mature Harappan). (Courtesy ASI). 167
- Apx. IV.18 Śiva holding a *triśūla* (trident). (Courtesy S.K. Sharma). 168
- Apx. IV.19 A bull branded on the hip with a key-mark. (Courtesy S.K. Sharma). 169





CHAPTER 1

Introductory

"The Sanscrit [*sic*] language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than Latin, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in roots of verbs and in the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologer [*sic*] could examine them all three, without believing them to have sprung from some common source, which, perhaps, no longer exists: there is a similar reason, though not quite so forcible, for supposing that both the Gothick [*sic*] and the Celtick [*sic*], though blended with a very different idiom, had the same origin with the Sanscrit [*sic*]; and the old Persian might be added to the same family, if this were the place for discussing any question concerning the antiquities of Persia."



That was Sir William Jones, a Calcutta High Court judge, delivering the Third Anniversary Discourse to the Bengal Branch of the Royal Asiatic Society, on February 2, 1786 (Jones 1788: 422-23). This startling pronouncement in the field of linguistics had far-reaching implications for the history of the peoples of Asia and Europe.

The revelation that there were close similarities in languages from India on the east to Europe on the west at once led to the concept of an Indo-European family of languages. Further, looking for the origins, as we are always prone to do, there came up the idea of a Proto-Indo-European language from which all these languages must have gradually emerged. It was thereafter argued that since languages cannot spread without their carriers, namely the people, there must have been a 'Proto-Indo-European race'.* Finally, as might be expected, there began the hunt for 'the original home' (Urheimat) of these Proto-Indo-Europeans. The R̥gvedic people, who are classified under this schema as 'Indo-Aryans', were thought to have come to India from their 'original home', located elsewhere. And here is a little bit of the history of the search for this Urheimat.

For the very simple reason that the earliest known text amongst these Indo-European languages was the *R̥gveda*, it was, as a natural corollary, thought by many Indian as well as foreign scholars that India must have been the original home of the Indo-European people. And here I quote two very eminent Indian intellectuals of the 20th century who argued that there was no basis for holding that the Vedic people came from outside, namely Shri Aurobindo and Swami Vivekanand. Observed the former (1971:24): "The indications in the Veda on which this theory of a recent Aryan invasion is built are very scanty in quantity and uncertain in significance. There is actually no mention of any such invasion." Likewise, Swami Vivekanand, with some anguish, stated (1970-73: Vol. 5, 534-35): "And what your European pundits say about the Aryans swooping down

* Although the terms 'Proto-Indo-European', 'Indo-European' and 'Indo-Aryan' have long been used in a racial sense, it is now realized that a racial connotation is faulty. Linguistic similarities need not necessarily imply a singularity of race.



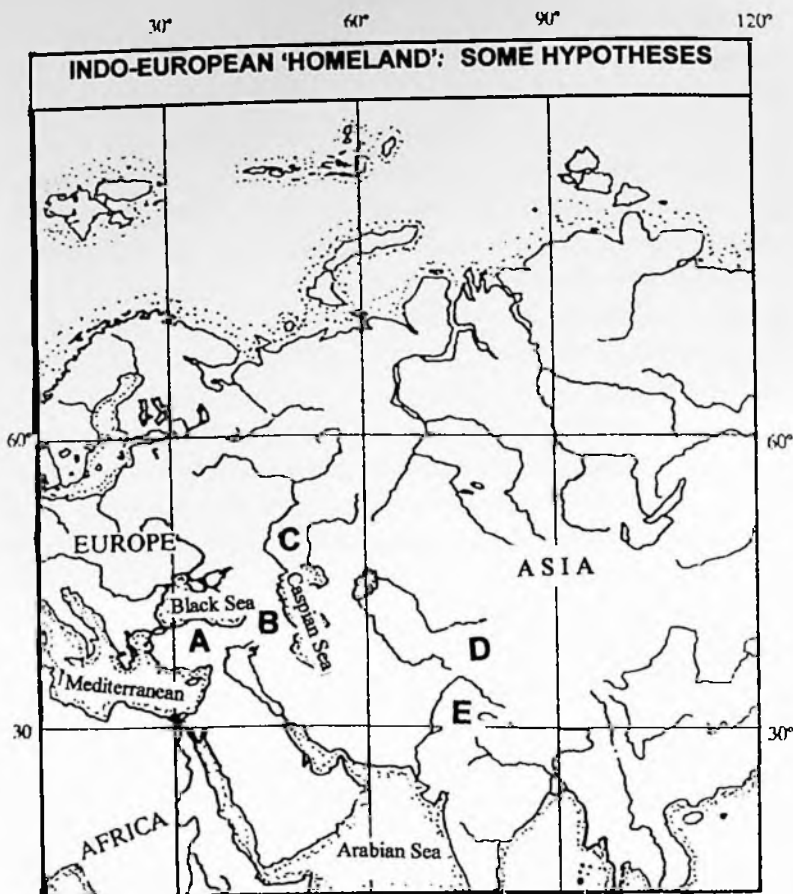
from some foreign land, snatching away the lands of the aborigines and settling in India by exterminating them, is pure nonsense, foolish talk! In what Veda, in what Sukta do you find that the Aryans came to India from a foreign country? Where do you get the idea that they slaughtered the wild aborigines? What do you gain by talking such nonsense? Strange that our Indian scholars, too, say amen to them; and all these monstrous lies are being taught to our boys!" But for various reasons, which may also have had some political overtones, the Indian-homeland hypothesis was soon abandoned and European pride came to the fore.

The European rat race was so profound that almost every part thereof – Scandinavia, south-west Russia, Finland, Germany, Hungary, etc. – advanced its own claims for the *Urheimat*. However, in the end the Europeans themselves became so much disenchanted that a renowned scholar, Jean-Paul Demoule (1980: 120), was led to make a very sarcastic remark: "We have seen that one primarily places the IE's [Indo-Europeans] in the north, if one is German.... in the east if one is Russian, and in the middle if, being Italian or Spanish, one has no chance of competing for the privilege."

In the course of time many non-European claims were made, the more noteworthy amongst which are those relating to: the Anatolian region in western Asia; the Black Sea-Caspian Sea belt; the steppes of southern Russia; and, the most recent one, Sogdiana in south-central Asia. Although it is not possible in this book to offer detailed comments on each one of the foregoing claims, it nevertheless seems necessary to show, howsoever briefly, their intrinsic flaws.

Holding that at the 'Proto-Indo-European' stage these people were no longer nomads but had become settled agriculturists, some scholars, with Colin Renfrew (1987) in the forefront, look to Anatolia as the 'homeland', the date for identification being around 7000 BCE. With this as the *Urheimat*, they hold that one branch moved westwards and entered Europe. Another branch faced eastwards and moving along the southern littoral of the Black Sea and Caspian Sea, entered Afghanistan and thence the Indian subcontinent. In a slightly modified version, it is stated that the splitting took place after reaching Europe, in which





A = Anatolia; B = Caucasus; C = Kurgan; D = Sogdiana; E = NW South Asia

Fig. 1.1. Indo-European Homeland: Some hypotheses.

scenario some people stayed on in Europe, while others moved eastwards and, passing through the territory lying on the north of the Black Sea and Caspian Sea, found their ultimate destinations in Iran, Afghanistan and India.

However, there are some inherent flaws in the foregoing thesis. First, if these Anatolian Proto-Indo-Europeans had reached the level of agricultural economy, one expects that the agriculture-related terms would have been shared by the various subsequent branches. This, however, is not the case. Commenting on this 'agriculture-aspect', Lamberg Karlovsky (1988: 2) does not hesitate to remark: "..... [the whole issue has been] simplified by Professor Renfrew to the ludicrous formula



7000 BCE Anatolia = farming Indo-Europeans.” Secondly, the language used in the well-known Bogazkoy treaty and in other allied documents on the basis of which the presence of the Indo-Europeans in Anatolia has been perceived, was only a ‘superstratum’ language in the region, used by the rulers and elites, and not the ‘sub-stratum’ one. This would at once imply that the Indo-Europeans were not the ‘sons of the soil’ in Anatolia.

Gamkrelidze and Ivanov (1995) are of the view that the area between the Black Sea and the Caspian Sea was the Urheimat of the Indo-Europeans. Using linguistic paleontology as their main tool, they argue that the perceived homeland was a mountainous region full of lakes and rivers, and since this particular region fits into such a mould, it must have been the homeland. This, however, does not seem to be a very compelling kind of argument since there could be many other regions footing the bill. On the other hand, there is a very strong argument that goes counter to the Black Sea-Caspian Sea hypothesis. The language spoken in that area is replete with non-Indo-European words, indicating that there was a predominantly non-Indo-European element over there, which formed the substratum. Hence the claim that the original inhabitants of the Black Sea-Caspian Sea belt were Proto-Indo-Europeans does not stand the scrutiny.

There is yet another region regarding which tall claims have been made as being the Urheimat, viz. the steppes located to the north of the Black Sea and Caspian Sea. Maria Gimbutas (1966 and 1997), amongst others, holds that the Kurgan Culture of this area, characterized by burials in barrows, represents the original Indo-Europeans. According to her, the Indo-Europeans were warriors who rode horses and used thrusting weapons and could thus easily conquer new areas. With this two-fold capacity, she argues, they overran central Europe around fifth-fourth millennia BCE. However, Renfrew (1999: 268) has shown that mounted warriors appeared in Central Europe only as late as the second-first millennium BCE. Thus, Gimbutas’s theory gets floored on account of this contrast. From another angle too the theory does not stand a scrutiny. Kathrin Krell (1998), using linguistic tools, demonstrates that the Indo-Europeans had reached an agricultural stage, whereas the Kurgan people were



essentially pastoral. Hence, the intrinsic weakness of the thesis, viz. Kurgan Culture = Indo-Europeans.

The latest amongst the claims in search for the *Urheimat* is the one made by Nichols (1997a and b). She holds that the dispersal of the Indo-European languages commenced from a region somewhere in the vicinity of ancient Bactria-Sogdiana, thus bringing the scenario closer to the Indian subcontinent, but not quite there. However, an important postulate in Nichol's thesis is that it was only the language that got dispersed and not the people. The details of this language dispersal in Nichol's thesis are that in the first lap it reached the Caspian region via the Aral Sea. Around the Caspian region there was a bifurcation: one trajectory being along the north of the Caspian Sea and Black Sea, and from there westwards to Europe; and the other along the south of these seas, reaching Anatolia and thence Europe. This thesis, however, remains to be duly evaluated.

In a rather sarcastic comment Mallory once said (1989: 143): "One does not ask 'where is the Indo-European Homeland?' but rather 'where do they put it now?'"

Now we may once again re-examine the 'Indian Homeland' thesis, which was advanced by many a scholar at the very beginning of the debate a couple of centuries ago, but which was overruled in favor of other areas like Europe, Anatolia, Black Sea-Caspian Sea littoral, Central Asia, etc., as discussed in the preceding pages. The re-opening the 'Indian Homeland' issue, may it be made absolutely clear, is not because of any chauvinistic reasons as some perennial critics would like to imagine, but because whereas two centuries ago there was no archaeological data to back up this theory there is plentiful of it now, which makes it obligatory on the part of scholars at least to re-think.

However, before taking up a detailed analysis of these issues, based on the everyday-piling-up archaeological data on the Indo-Pakistan subcontinent, it would be interesting to have a look at how the antiquity of Indian civilization was viewed in not too distant a past. Thus, in his book, *The Cambridge History of India*, Volume I, published in 1921, Sir John Marshall, the distinguished Director General of the Archaeological Survey of India, expressed the view that for all practical purposes the history of India began



after the invasion of Alexander the Great in 326 BCE, giving a somewhat reluctant nod to the fact that the cyclopean walls at Rajgir (ancient Rājagriha in Bihar) may go back to the sixth century BCE. And that was all. Little did this great archaeologist realize that in the very year of the publication of his tome, one of his own officers in the Survey, namely Rai Bahadur Daya Ram Sahni, had brought to light the remains of a civilization which threw back in a single stroke the antiquity of civilization on the subcontinent to the 3rd millennium BCE. This was at Harappa in Montgomery (now called Sahiwal) District in Pakistan's Punjab. Hardly within a year (1922), the feat of Daya Ram Sahni was reduplicated by another of his colleagues, Rakhal Das Banerjee, at Mohenjo-daro in Larkana District, Sindh. These preliminary discoveries were followed up by large-scale excavations at Mohenjo-daro, first under the overall direction of Sir John Marshall himself (Marshall 1931) and later by E.J.H. Mackay (1938). Likewise, the site of Harappa was treated to major operations by Pandit Madho Sarup Vats (1940).

These discoveries produced the evidence of there having existed in the north-western part of the Indo-Pakistan subcontinent a civilization, which was not only contemporary with the well-known civilizations of Egypt and Mesopotamia, but in some ways – spatially as well as qualitatively – even excelled them. The area covered by this civilization (going today by various names, such as Harappan Civilization, Indus Civilization and Indus-Sarasvati Civilization) was as much as, if not more than, the area covered jointly by the Egyptian and Mesopotamian civilizations. But, indeed, the extent is not so much a point that deems to be highlighted as are certain other features of the Harappan Civilization. For example, whereas neither the Egyptian nor the Mesopotamian civilization could boast of town-planning, the Harappan Civilization could. The Harappan cities were systematically laid out, the streets being oriented along the cardinal directions, i.e. north-south and east-west. In fact, the recent excavations at Kalibangan (Lal 1997 and 1998) have shown that even the widths of the streets were in a set ratio of 1:2:3:4, actually measuring 1.8 meters (m), 3.6 m, 5.4 m and 7.2 m respectively. An elaborate system of underground drainage characterized Mohenjo-daro – something lacking in



contemporary Egypt and Mesopotamia. Further, the metropolitan settlements, such as those at Mohenjo-daro and Harappa and the ones excavated in India after the Partition of 1947, viz. at Kalibangan, Dholavira, etc., had at least two components, a relatively smaller one named by archaeologists as the 'Citadel', meant for the elites, priests and rulers, and a bigger one called the 'Lower Town', inhabited by the commoners. It has been found that the former was invariably fortified within which there lay many important buildings like a granary, a bath-complex and platforms carrying on them religious structures of various denominations. Quite often the Lower Town was also provided with a fortification wall. Further, the use of kiln-fired bricks, made in a set proportion of 4:2:1 (namely 40 x 20 x 10 cm or 30 x 15 x 7.5 cm), was another feature that made the Harappan towns stand apart from their western counterparts.

Though the Harappan Civilization cannot boast of large-sized sculptures as can the Egyptian and Mesopotamian civilizations – this may perhaps have been due to the non-availability of stone in the alluvial Indus and Sarasvati plains; the Harappan statuary is by no means of a low order. Though tiny, the famous bronze figure of a 'dancing girl' from Mohenjo-daro, with an exotic pose, arms bedecked with bangles, a stylish hair-do, a somewhat haughty expression on the face and a necklace dangling between the breasts, is indeed a memorable piece of art. Or, take the engraved seals of steatite. Though meant to be used for a more mundane purpose of stamping packages containing commodities for export, the animals featuring on them are really marvelous. Indeed, no engraving from ancient Egypt or Mesopotamia can match the nuances of the zebu, with its swinging dewlap, well-proportioned muscular body, long and curved horns and a face beaming with force and vitality – all finished exquisitely and to the minutest details.

As might be expected, soon after the discovery of this civilization began the debate for its origin. Since there was already a set frame of mind, at least in the 1920s, that India was incapable of giving birth to such a magnificent civilization, its parentage had per force to be traced outside India. And since a settled civilization was readily available in Mesopotamia, it was

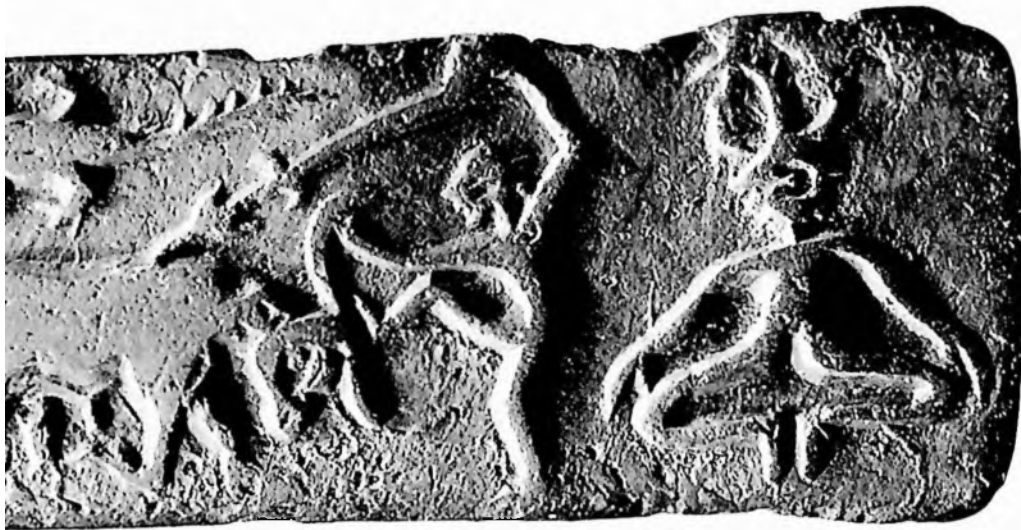


assumed that this Indian civilization originated from that of Mesopotamia. When the proponents of such a thesis were asked to pinpoint which of the elements of the Harappan Civilization originated from their respective counterparts in Mesopotamia, these scholars naturally fumbled, since there was nothing to support such a stand. Then came the next move, namely even if there were no objects to demonstrate the origin or even borrowing, at least 'the idea of civilization' must have come from Mesopotamia. They flashed out: 'Ideas have wings'.

We have thus three very specific questions to deal with, namely (1) whether the so-called Indo-Aryans, i.e. the R̥gvedic people, came to India from outside, as invaders or immigrants, or they were indigenous; (2) whether the Harappan Civilization was also intrusive or it grew up on the Indian soil; and (3) whether the Harappan Civilization and the Vedas are but two faces of the same coin.

In the following pages we shall try to answer these questions, one by one.





CHAPTER 2

The 'Aryan Invasion' Theory: An In-depth Analysis

The seeds of the concept that the Aryans were aliens to India had, in a way, been sown as far back as the 19th century when a renowned German scholar, Max Muller, dated the Vedas to circa 1200 BCE. Since he had no concrete evidence to go by, he took recourse to ad-hocism. Accepting that the *Sūtra* literature was datable to circa sixth century BCE, Muller thought that a period of two hundred years would be good enough for each of the preceding textual periods of the Vedic literature, namely those of the *Āraṇyakas*, *Brāhmaṇas* and the Vedas. Thus, $600+200+200+200 = 1,200$ BCE was the magic figure he arrived at. It may have been a fragile ray of light at a time when there was almost complete darkness surrounding the date of the Vedas – the proverbial 'something is better than nothing'. But this ad-



hocism did not go unnoticed. Muller's contemporaries, like Goldstucker, Whitney and Wilson, came down heavily upon him and questioned this kind of methodology. Cornered from all sides, Muller climbed down and wrote in his Preface to the *Rigveda* as follows:

I have repeatedly dwelt on the merely hypothetical character of the dates, which I have ventured to assign to the first periods of Vedic literature. All I have claimed for them is that they are minimum dates, and that the literary productions of each period which either still exist or which formerly existed could hardly be accounted for within shorter limits of time than those suggested.

But this kind of half-hearted apology did not work and Max Muller was obliged to categorically admit (*Physical Religion* 1890, reprint 1979):

If now we ask how we can fix the dates of these periods, it is quite clear that we cannot fix a terminum a qua [sic]. Whether the Vedic hymns were composed [in] 1,000 or 1,500 or 2,000 or 3,000 BC no power on earth will ever determine.

The great pity, however, is that in spite of such a candid confession by Max Muller himself, his Fatwa of 1,200 BCE still holds good with some of his followers, both in India and abroad. A seed once sown keeps on throwing up its shoots, in spite of heavy doses of plant-killers!

Anyway, the eventual effect of Max Muller's dating of the Vedas to 1,200 BCE showed up when in the 1920s the Indus Civilization was discovered on the Indian subcontinent. Since some objects belonging to this civilization had also been found in cultural deposits in Western Asia in a datable context of the 3rd millennium BCE, it was but natural to assign the Indian Civilization as well to that period.

The fall-out of it all was that, since according to the Fatwa of Max Muller the Vedas were only as old as 1,200 BCE, the Indus Civilization was at once declared to be pre-Vedic and non-Vedic. Further, since the only other major ethnic group in India was that of the Dravidian-speaking people, it was a downright conclusion that the authors of the Indus Civilization were none other than the Dravidian speakers. To make this theory more



spicy, it was further added that the Indo-Aryan invaders destroyed the Indus Civilization and its Dravidian-speaking authors were driven away to South India where the Dravidian-speaking people live even today. To make this thesis look more plausible, it was argued that while the bulk of the Indus people migrated all the way to South India a handful of them managed to stay behind; and these survivors are identified with a small group of Brahui-speaking people living in a part of Baluchistan in Pakistan.

This Brahui issue has been examined by many scholars who hold that this language is not a part of the Dravidian group. On the other hand, they think that it is an off-shoot of the eastern Elamite. Some other scholars opine that the Brahui-speakers are not ancient inhabitants of the area but moved thereto during the medieval times. Thus, not much weight can be attached to the Brahui factor in holding that the Brahui-speakers of Baluchistan are remnants of the ancient people who authored the Indus Civilization.

We now turn our attention to the thesis that the Indus people, who supposedly were Dravidian speakers, were driven by the Indo-Aryan invaders to South India. If this thesis has even an iota of truth, we should find the cultural remains of the incoming Indus people in South India. But the fact of the matter is that there is not even a single site associable with the Indus Civilization in the whole of South India – be it Tamil Nadu or Andhra Pradesh or Karnataka or Kerala. On the other hand, what we find is that around that time the just-stated regions of South India were occupied by the Neolithic folks. Are we then supposed to believe that Indus people, on reaching South India, suddenly shed off their advanced culture and took to a Stone Age way of living? All this clearly controverts any immigration of Indus people into South India.

The thesis that the Indus people were Dravidian speakers can be test-checked in another manner. It has been observed all over the world that even when a new set of people come to a country, settle there and set up towns and cities of their own, the settlements of the earlier inhabitants continue to be there with their original names. To cite a well-known example: A few centuries ago there was a mass-scale migration of the Europeans,



including the British, to what is now known as the United States of America. These immigrants forcibly took over lands from the original inhabitants, then called Red Indians (and now American Indians). They were pushed into areas what are euphemistically known as Indian Reserves. Anyway, that is American history. The point that I wish to make here is that even though the newcomers established their own cities like New York, New Jersey and so on and gave names to rivers like the Hudson, the names given by the earlier people could not be obliterated. Examples of the continuity of the older names are: the cities of Chicago and Massachusetts and the rivers known as Missouri and Mississippi.

Nearer home, Delhi is a good example of such continuity. While the incoming British established Lutyens' New Delhi, the Old Delhi, known as Shahjahanabad, is still there. In fact, still earlier settlements like Qila Rai Pithora and even the earliest one known as Indraprastha (bounded by what is called the Purana Qila) continue to bear the same name.

The point that is being made by citing these examples is, to repeat what has already been stated, that older names do not vanish in the air though the new ones come into being on the terra firma. Let us project this analogy back into the Indus times. If the Indus Valley people, who are claimed to have been Dravidian speakers, were driven away by the 'invading Aryans' to South India, there should nevertheless remain some Dravidian-oriented names of cities and rivers in the vast domain of the Indus Valley civilization. But the hard fact is that there is not even a single example to testify to this. Why is this so? The reason is very clear: the Indus Valley people were not Dravidian speakers.

If they were not Dravidian speakers, then who were they? What was their ethnic identity? While we shall answer this question a little later, here we examine in some detail the hollowness of the Aryan invasion theory.

Mortimer Wheeler (later knighted), in the report on his 1946- excavations at Harappa, wrote as follows (Wheeler 1947: 82):

Aryan invasion of the Land of Seven Rivers, the Punjab and its environs, constantly assumes the form of an onslaught upon the walled cities of the aborigines. For these cities the term used in the *Rigveda* is *pur*, meaning a 'rampart', 'fort' or 'stronghold'



..... Indra, the Āryan War-god, is *purandara*, 'fort-destroyer'. He shatters 'ninety forts' for his Āryan protege Divodasa.

Where are – or were – these citadels? It has in the past been supposed that they were mythical, or were 'merely places of refuge against attack, ramparts of hardened earth with palisades and a ditch'. The recent excavation of Harappa may be thought to have changed the picture. Here we have a highly evolved civilization of essentially non-Āryan type, now known to have employed massive fortifications, and known also to have dominated the river-system of north-western India at a time not distant from the likely period of the earlier Āryan invasions of that region. What destroyed this firmly settled civilization? Climatic, economic, political deterioration may have weakened it, but its ultimate extinction is more likely to have been completed by deliberate and large-scale destruction. It may be no mere chance that at a late period of Mohenjo-daro men, women and children appear to have been massacred there. **On circumstantial evidence, Indra stands accused.** (Emphasis added.)

His pronouncement, namely 'On circumstantial evidence, Indra stands accused', may be regarded as the high water mark of the 'Aryan Invasion' theory, which became, as it were, the gospel truth for decades to come until it was demonstrated to be hollow by subsequent writers.

Let us first have a look at the kingpin of Wheeler's thesis, namely the so-called 'massacre' at Mohenjo-daro. Having an overall perimeter of about 4.5 kilometers, the site has two components: a small fortified area on the west, called the 'Citadel', and a much larger area on the east, known as the 'Lower Town'. While the former contained many religious and other important structures and may have been the residential area for the priests and elites, the latter was, as one can see, the habitation area for the common people, such as merchants, agriculturists, craftsmen, etc.

All the skeletons, complete or fragmentary, came from the Lower Town and none from the Citadel. For purposes of supervision of the excavation, the area in the Lower Town was subdivided and allotted to various officers. Thus, we have names such as HR Area (after H.R. Hargreaves), VS Area (after M.S. Vats), and DK Area (after K.N. Dikshit). The skeletal



remains were not found in a single area, but were distributed all over the site. Vertically, the structures encountered at the site were assigned to Early, Intermediate and Late periods. The locations of the skeletons and their stratigraphic horizons, in brief, were as follows:

HR Area, House V, Room 74: 14 skeletons—The excavator held that, since 4 of the skeletons lay above the ruins of a wall of the Late Period, these should be assigned to a time posterior to abandonment of the settlement as a whole.

HR Area, House III: Incomplete remains of 3 skeletons, from Late Period.

HR Area, 'Deadman's Lane', 1 fragmentary skeleton; stratigraphy debated, Intermediate/Late Period.

VS Area, a lane between two houses, 6 skeletons. Stratigraphy debated, Intermediate/Late Period.

DK Area, Block 10A, 9 skeletons, many of them incomplete, fragments of crania and other bones. Probably Late Period.

DK Area, G Section, 'Well Room Tragedy', 2 skeletons, Late Period.

It would be seen from the above that: (i) the skeletons are scattered all over the site; and (ii) they belong to different horizons, namely Intermediate, Late and even posterior to the abandonment of the site.

What does the entire evidence show? If the 'massacre' theory is to hold good, the implication would be that the 'invaders' went from area to area to kill the inhabitants, since the skeletons are widely distributed in space. Well, one would have accepted this explanation, but what does one do with the hard fact that chronologically the skeletons belong to different periods, namely Intermediate, Late and are even posterior to the abandonment of the site. Had the skeletons been related to a massacre, they should have come from one and the same period, which would normally have been the latest, since it has been claimed that after the massacre the inhabitants were forced to leave the site. Very clearly, therefore, the skeletons have nothing to do with any invasion and massacre.

There are other questions which may rightly be asked. The victims of an invasion, at least some of them, should bear marks of injuries inflicted on them, either with javelin or sword or



even arrows, but no such injury marks have been reported by any of the excavators. Nor have any weapons of warfare been reported from any of the sites. It would lead to an assumption that the invaders carried away with them all the weapons and the invaded were in all cases unarmed. This would appear to be a far-fetched assumption.

All said, therefore, there is no case for sustaining the theory of a massacre and George F. Dales (1964) very rightly dubbed it as a 'Mythical Massacre'. Further, if it had really been a case of mass-massacre and extermination of the Harappans by the Aryan invaders, one would expect a few other sites too to have yielded some evidence of that sort. But the hard fact is that, though hundreds of Harappan sites have been excavated by now, none has yielded any evidence even remotely suggestive of such a happening. Nor has any site yielded remains of an intrusive culture, which may be associated with so-called invaders. There is a continuity of occupation, though at some sites signs of deterioration may no doubt be seen. But that is a natural process that took place in long-lived and exhausted material cultures the world over.

Thus, whether Sir Mortimer would have liked it or not, **Indra stands exonerated.**

A close associate of Wheeler, Professor Stuart Piggott, even attempted to draw a pen-picture of the hypothetical Aryan invasion in the following words (1952: 238-39):

In sum, however, the evidence from Baluchistan and from Sind and the Punjab is reasonably consistent in implying that at some period likely to have been before 1500 BC (to use a convenient round figure) the long-established cultural traditions of North-Western India were rudely and ruthlessly interrupted by the arrival of a new people from the west. The burning of Baluchi villages and the equipment of the graves at Sahi Tump suggest that these new arrivals were predominantly conquerors who travelled light, and adopted the pottery of the region in which they established themselves. In Sind, at Chanhudaro, a barbarian settlement appears [evidently the reference is to the Jhukar Culture] in the deserted ruins of the Harappan town, and here some local craftsmen may have remained to work for their alien masters, while the pottery suggests a resurgence of local, non-Harappan elements. At Mohenjo-daro it seems clear



that the civilization that had survived so long was already effete and on the wane when the raiders came, and at Harappa we know from the evidence of the re-building of the Citadel walls that the inhabitants were on the defensive in the last days of the city, though these precautionary measures did not suffice to keep away the intruders, wherever they came from, who afterwards settled on the ruins and buried their dead in Cemetery H for generations.

There is a lot of make-belief in what Piggott has just stated. Thus, for example, no one seriously believes that the occurrence of ash, charcoal and red earth at a few sites in Baluchistan or the graves at Shahi Tump are associable with any 'conquerors'. As to the Jhukar Culture at Chanhudaro, M.R. Mughal's excavations have conclusively proved that this culture was not at all alien but just a transition from the Harappa Culture itself (Mughal 1992). Similar is the case with the Cemetery H Culture at Harappa. Recent excavations by Meadow and Kenoyer have established five periods of occupation at the site, of which Period 4 (counting from the bottom) shows a transition towards the Cemetery H Culture, which is full bloom in Period 5 (Kenoyer 1991: 56).

Period 5 may reflect only a change in the focus of settlement organization from that which was the pattern of the earlier Harappan phase and not cultural discontinuity, urban decay, invading aliens or site abandonment, all of which have been suggested in the past.

Nobody, therefore, should remain under the spell that Cemetery H Culture is alien and associable with so-called 'Invading Aryans'.

On the other hand, there is a positive case for demonstrating the continuity of population in the Harappan region. This truth is revealed through a close study of the human skeletal remains from a large number of protohistoric sites by Hemphill and his colleagues, who emphatically state: (1991: 137):

As for the question of biological continuity within the Indus Valley, two discontinuities appear to exist. The first occurs between 6,500 and 4,500 BC The second occurs at some point after 800 BC but before 200 BC.



So, even biologically, there is no case for an alien invasion or immigration, much less of the Aryans?

In the context of this 'Aryan Invasion' debate, it may also be well worthwhile to quote the views of some distinguished Western archaeologists. Thus, a renowned archaeologist from the country of Wheeler and Piggott themselves, Colin Renfrew, wrote (1988: 188 and 190):

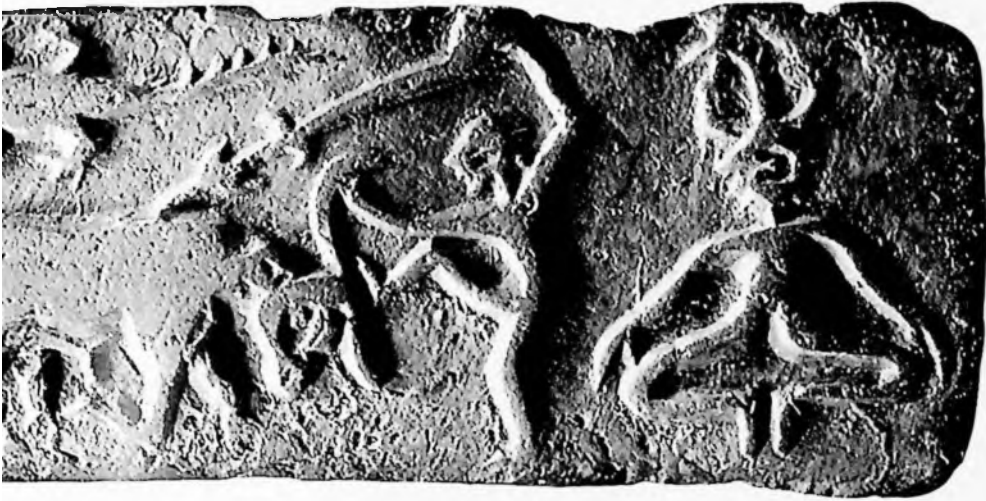
When Wheeler speaks of 'the Aryan invasion of the Land of Seven Rivers, the Punjab', he has no warranty at all, so far as I can see. If one checks the dozen references in the Rig Veda to the seven rivers, there is nothing in any of them that to me implies an invasion. ... Despite Wheeler's comments, it is difficult to see what is particularly non-Aryan about the Indus valley.

From across the Atlantic comes another dissent. Two eminent archaeologists from USA, namely Jim G. Shaffer and Diane Lichtenstein (1999), totally disagree with the 'Invasion' theory:

A few scholars have proposed that there is nothing in the 'literature' firmly placing the Indo-Aryans outside of South Asia, and now archaeological record is confirming this. ... As data accumulate to support cultural continuity in South Asian prehistoric and historic periods, a considerable restructuring of existing interpretive paradigms must take place. We reject most strongly the simplistic historical interpretations, which date back to the eighteenth century, that continue to be imposed on south Asian cultural history. These still prevailing interpretations are significantly diminished by European ethnocentrism, colonialism, racism and antisemitism.

With the foregoing detailed analysis, should we not treat the 'Aryan Invasion' chapter as closed?





CHAPTER 3

The 'Aryan Immigration' Alternative Too Under Scanner

Even though vanquished, he would argue still.

— Oliver Goldsmith's *Village School Master*

Argue they must, because it is their sacred duty to fight for their committed 'cause', namely that the Aryans must have come from outside. Thus, failing to sustain the 'Aryan Invasion' theory, two eminent scholars from India go in for an alternative. They postulate an 'Aryan Immigration'. Thus, Professor Romila Thapar, a well-known historian, came out with the alternative theory by avowing (1989-91:259-60):

If invasion is discarded then the mechanism of migration and occasional contacts come into sharper focus. The migrations



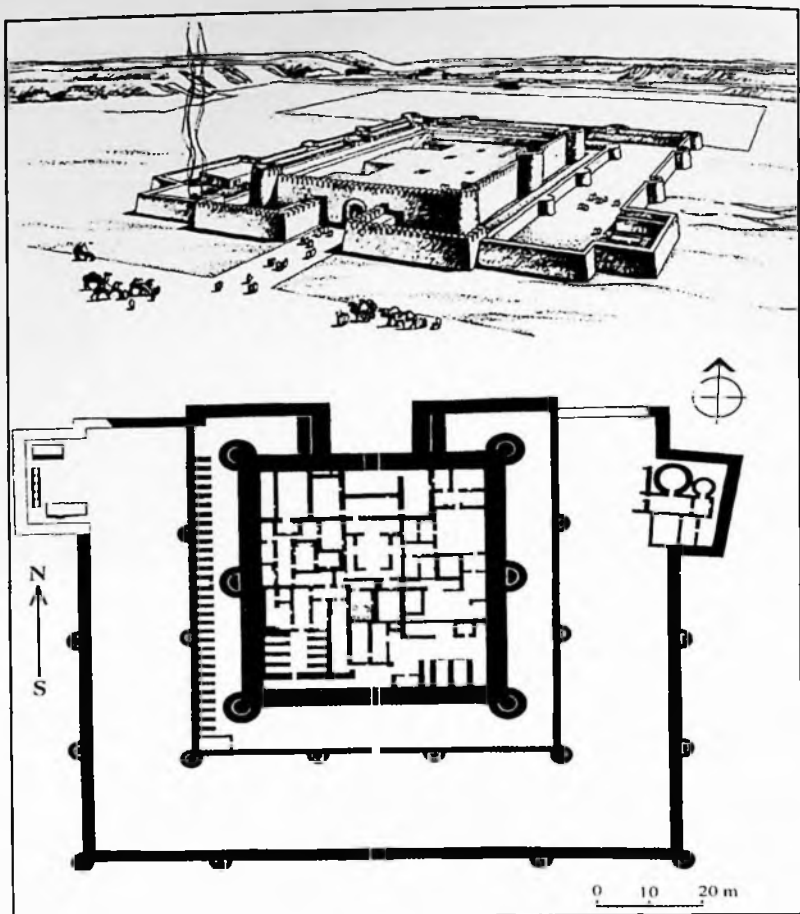


Fig. 3.1. Temple at Togolok-21, Margiana.

appear to have been of pastoral cattle breeders who are prominent in the *Āvestā* and the *Rigveda*.

Faithfully following her, in fact elaborating her new thesis, Professor R.S. Sharma, another noted historian, asserted (1999:77):

The pastoralists who moved to the Indian borderland came from the Bactria-Margiana Archaeological Complex or BMAC which saw the genesis of the culture of the *Rigveda*.

Thus, the Thapar-Sharma theory envisages that: (i) the authors of the Bactria-Margiana Archaeological Complex were 'pastoral cattle breeders'; (ii) they were Aryans; and (iii) they



entered the Indo-Pakistan subcontinent as immigrants. We shall now examine all the three assumptions, one by one.

A PROFILE OF THE BACTRIA-MARGIANA ARCHAEOLOGICAL COMPLEX

To begin with, we shall give, though briefly, the various cultural constituents of the BMAC and then assess whether this complex can be regarded as that of 'pastoral cattle breeders', as held by the Thapar-Sharma duo. Many sites in Bactria in northern Afghanistan and in Margiana in Turkistan have been excavated by eminent archaeologists, including Victor I. Sarianidi. The excavations have brought to light many monumental buildings and a variety of rich artefacts, to some of which we shall refer below.

TOWN-PLANNING AND OTHER ARCHITECTURAL REMAINS

Though mostly made of mud bricks, the residential houses were often very large and elaborate, some of the rooms being marked out for specific purposes. But it is the monumental buildings which call for special attention. Here we shall refer to a temple-complex and a Citadel.

The temple-complex, at Togolok-21 in Margiana (Fig. 3.1), covers an area of about 1.5 hectares. The main structures in the central part are enclosed by three successive peripheral walls. Of these, the innermost one, enclosing an area 60 x 50 meters, is 5 meters in thickness and is provided with circular towers at each corner and semi-circular ones on the eastern and western sides. The two other peripheral walls, successively on the outer side, also have the same kind of features in so far as the towers are concerned.

Likewise, the Citadel at Conur, also in Margiana, is a very elaborate affair. A look at Fig. 3.2 will convince one of the same. Roughly rectangular on plan, it stretches over an area measuring 120 x 115 meters. The fortification wall has rectangular towers, four on each side and one at each corner. There were about a dozen buildings inside, which included, besides the king's residence, administrative blocks, assembly halls, cult structures, etc. There was an area earmarked even for burial rites.



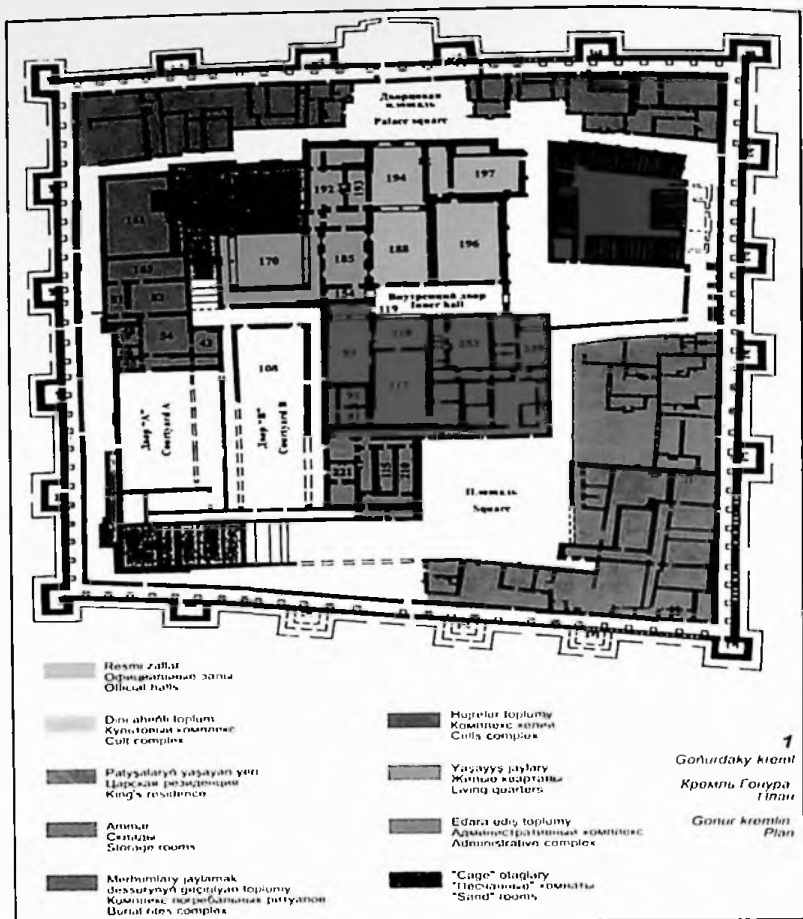


Fig. 3.2. Gonor, Margiana: Plan of the 'Citadel'.

SCULPTURAL ART

We present here two specimens of sculptural art: one each of a human and an animal figure. The former is that of a seated lady from Bactria (Fig. 3.3). In order to bring out the contrast in the portrayal, the sculptor has chosen a blackish stone for the dress with which a major part of the body is covered, but a pinkish white one for the head and hands. Also to be noted are not only the herring-bone weaves of the garment, but also the details in the depiction of hair-style.

It is not just the human beings that attracted the attention of the BMAC artists, but the animal world as well. There are many examples of excellently carved out animal figurines, as an example





Fig. 3.3. Bactria. Composite stone figure of a lady.

we present here that of a feline. Made of chlorite stone, the entire body is covered with gold leaf, which is further decorated with a variety of semi-precious stones. The facial expression of the animal is superb (Fig. 3.4). The specimen comes from Bactria.

METAL OBJECTS

The BMAC sites have yielded a rich harvest of metal objects, variously in copper, bronze, silver and gold. Here we would like to draw the reader's attention to a highly specialized axe,





Fig. 3.4. Bactria: Chlorite and gold-leaf representation of a feline, with semi-precious stone inlay.

made of silver and covered with gold lamina. However, it is not the metal content that is so important as the design and decoration (Fig. 3.5). The axe has a large socket at the butt-end, with heads of two eagles jutting out. On the socket there sits a winged feline, with the front legs outstretched and the mouth wide open. On the blade may also be seen some decorative motifs. Evidently, this particular axe was not meant for the ordinary purpose of cutting fire-wood. It definitely had some specialized use and the nearest that one can think of, in the rich and elaborate set-up of the BMAC, is that it may have been mounted on a (silver?) staff and used by the ruler (a king?) as a ceremonial axe.

With such elaborate monumental buildings, richly carved out human and animal sculptures and the 'ceremonial' silver axe, can the Bactria-Margiana Archaeological Complex be regarded as the product of 'pastoral cattle breeders', as Thapar and Sharma would like us to believe? Perhaps no further comments are needed.





Fig. 3.5. Bactria: Silver ceremonial axe with parts covered with gold lamina.

THE BMAC VIS-À-VIS THE ARYANS

We now pass on to the second aspect of the problem, namely whether the Bactria-Margiana Archaeological Complex can be regarded as being that of the Aryans. In this context, Sarianidi has advanced four types of supportive evidences. These are: (i) motifs on the seals; (ii) fire-worship; (iii) *soma*; and (iv) *aśvamedha* (horse-sacrifice).

(i) MOTIFS ON THE SEALS

The BMAC has yielded a large number of amulets and seals. While the former depict simple motifs like snakes, scorpions, eagles, two-humped Bactrian camels, etc., it is the seals that



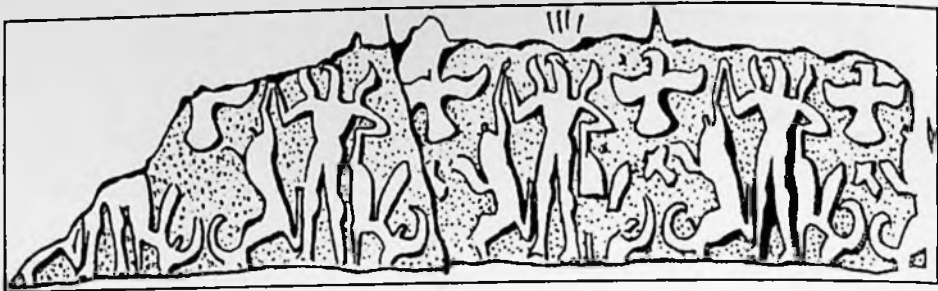


Fig. 3.6. Impression of a cylinder seal from Gonur-1.

call for special attention, in particular the cylindrical ones. These carry some kind of a running story and we illustrate here two of these. The one illustrated as Fig. 3.6 shows a standing human figure having an avian head, with wings arising from each of the shoulders. He holds a mountain-goat-like animal in each of the hands. Eagles fly in the sky adjacent to the figure's head. The other seal (Fig. 3.7) has a different story to tell. On it there are two standing human figures each with an animal head. They hold a vertical pole on the pointed top of which rests the belly of another human figure with an animal head. This latter figure lies horizontally, as if the belly is going to be pierced by the pole. Behind the standing human figures are seated animal-headed humans, one of whom plays on a drum.

Professor Sarianidi banks heavily on the motifs on the BMAC seals as a proof the BMAC people having been the ancestors of the Indo-Aryans. Says he (1993b: 12-13):

In this connection worthy of utmost attention is the impression of a cylinder seal on one of the Margianian vessels, found... at Gonur. The central figure of a frequently repeated frieze composition is a standing nude anthropomorphic winged deity with an avian head holding two mountain goats by the legs...

Such anthropomorphic winged and avian-headed deities are represented fairly fully in the glyptics and on the seals of Bactria... These Bactrian images find the most impressive correspondence in Syro-Hittite glyptics.

If the fact that it is for the Mittani kingdom that the names of Aryan deities are evidenced is taken into account the importance of the Bactrian-Margianian images will become obvious in the



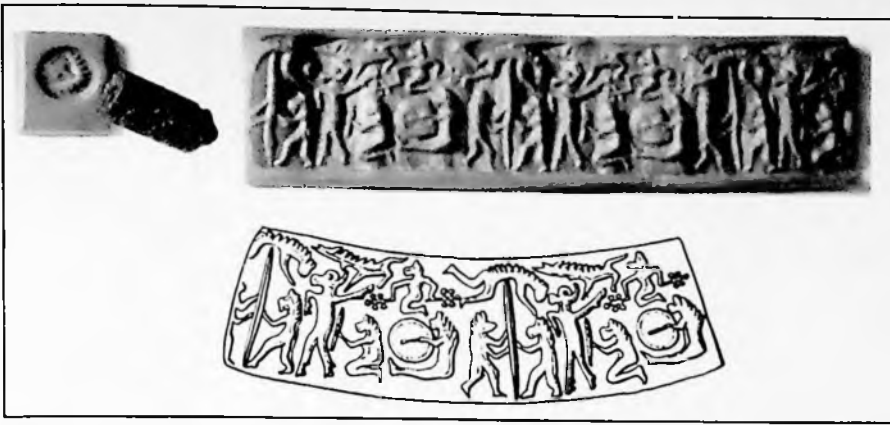


Fig. 3.7. Cylinder seal from Togolok-21 and its impression.

light of solving the Aryan problem on the basis of new archaeological data.

Since certain motifs on the BMAC seals compare well with those on the Syro-Hittite glyptics, it may be reasonable to say that there were some cultural contacts between the two areas. But on the basis of the simple fact that a Hittite-Mitanni treaty (the Bogazkoy one) refers to the Vedic gods like Indra, Mitra, Varuṇa, etc., it is absolutely far-fetched to hold (as Sarianidi does) that the BMAC people were ancestral to the Vedic Aryans.

(II) FIRE WORSHIP

In one of his papers (1993a: 679), Sarianidi states:

A building unearthed at Gonur temenos and conveniently called a fort has a cross-shaped general plan with twelve corner towers. It most closely resembles the outer contours of the indisputable fire temple at Tepe Nush-i-Jan. A difference of minor importance only consists of the fact that while the towers are round at Gonur, they are square at Nush-i-Jan.

However, Sarianidi goes on to admit:

Unfortunately, the fort (at Gonur temenos) appears to be unfinished so we do not know its inner construction, but apparently it was a fire temple.

The reader should be able to see very clearly the innate weakness in Sarianidi's argument. When the Gonur temenos is



unfinished and nothing is known about its contents, how can it be taken to have been a 'fire temple.' Let not imagination have the upper hand!

(III) THE SOMA

The *soma* was a very favorite drink with the Vedic people. It was offered to the gods as well. In the *Avestā*, it is referred to as *haomā*, the Sanskrit sibilant 's' having changed into 'h'. Sarianidi states that this substance is the same as ephedra, though not many scholars agree with that equation. Anyway, he claims to have found this substance in the temple-complex at Togolok-21 (referred to earlier). However, Harri Nyberg, a well-known expert on the subject who examined the sample, does not agree that the given substance is really ephedra. This is what he has to say (1995: 400):

...remains of ephedras have also been reported from the temple-fortress complex of Togolok 21 in the Merv oasis (ancient Margiana – Parpola 1988; Meier-Melikyan 1990) along with the remains of poppies. ... In 1990 I received some samples from the site [forwarded by Dr. Fred Hiebert of Harvard University], which were subjected to pollen analysis at the Department of Botany, University of Helsinki.The largest amount of pollen was found in the bone tube (used for imbibing liquid?) from Gonur-1, but even in this sample, which had been preserved in a comparatively sheltered position when compared with the other investigated samples, only pollen of the family Caryophyllaceae was present. **No pollen from ephedras or poppies was found** and even the pollen left in the samples showed clear traces of deterioration (typical in ancient pollen having been preserved in a dry environment in contact with oxygen). Our pollen analysis was carefully checked for any methodological errors, but no inaccuracies were found.

It would thus be seen that even the identification of ephedra is doubtful. How can then we bank on the *Soma* theory?

(IV) THE AŚVAMEDHA (HORSE-SACRIFICE)

When one is keen to establish a theory, one draws upon any possible evidence that may come one's way. Thus, Sarianidi has pushed into the discussion the skeleton of a horse whose head





Fig. 3.8. Gonur, Margiana: Abandoned skeleton of a horse, mistaken by Sarianidi to represent the *aśvamedha* (horse-sacrifice).

is missing and calls it an example of the *aśvamedha* (Fig. 3.8). It would be seen from the photograph that the skeleton lies hardly a few centimeters below the ground level, which is observable on the top-left of the photograph. Also, there is no outline of a pit in which the horse may have been given a burial. There is no evidence of the animal having been deliberately beheaded and the absence of the head may be due to a variety of reasons, such as subsequent human interference or even an erosional process. The most important point is that the skeletal remains do not conform to what is laid down in the *Rigveda* itself in respect of a horse-sacrifice. For example, RV 1.162.18 runs as follows (Griffith's translation of the *Rigveda*, Vol. I, p. 216):

The four-and-thirty ribs of the swift Charger, kin to the Gods,
the slayer's hatchet pierces.
Cut ye with skill, so that the parts be flawless, and piece by
piece declaring them dissect them.

It would be observed that there is no evidence of 'the cutting of the skeleton piece by piece', as prescribed. Hence, it is clearly not an example of an *aśvamedha*.

By now the reader would have seen that all the four pillars, namely (i) the motifs on the sealings, (ii) fire-worship, (iii) *soma*,



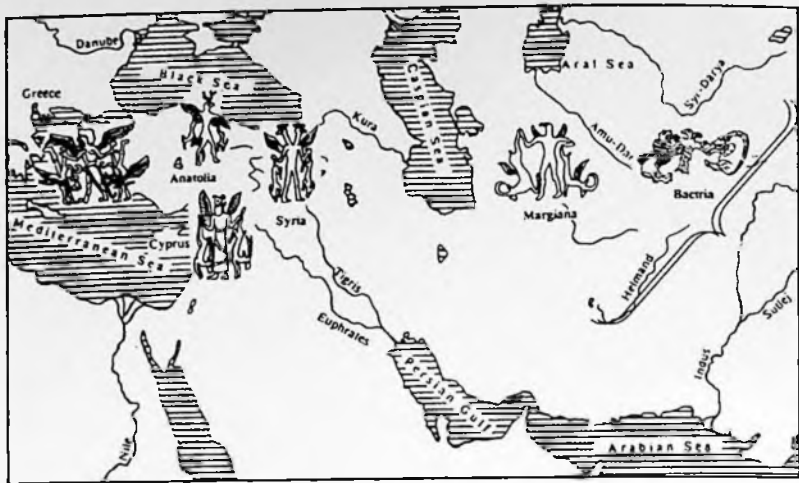


Fig. 3.9. Distribution of the motif 'man-bird with hit-animals'.

and (iv) *aśvamedha*, on which the edifice of the association of the BMAC with the Vedic culture was sought to be erected, have collapsed, one by one.

And here is something no less important. Attention may be drawn to the two maps at Figs. 3.9 and 3.10, which were published by Sarianidi himself, as Figs. 2 and 5 along with his 1993b paper (only the brackets are added by me). Of these, Fig. 3.9 shows the distribution of the motif of 'man-bird with hit-animals'. It would be observed that this favorite BMAC motif occurs from the Bactria-Margiana region on the east to the Syro-Hittite region on the west but does not occur in the region south-east of the BMAC area. However, miniature bowls bearing on their rims the animal-and-snake motifs and miniature columns, again a characteristic of the BMAC, do travel westwards as well as southwards, but they do not cross the Indus on the east (Fig. 3.10). **The distribution maps thus clearly show that these characteristic BMAC elements did not at all enter the Vedic region, which was east of the Indus.**

At the same time, it would be unfair not to refer to a few items which occur east of the Indus and have their counterparts in Central Asia: for example, a double-spiral-headed copper pin from Chanhudaro, two-animal-headed copper pins from Harappa and some clay sealings from Gilund. But these stray items do not call for a 'migration' of the BMAC people into India. They could very well have been the result of trade-contacts, as



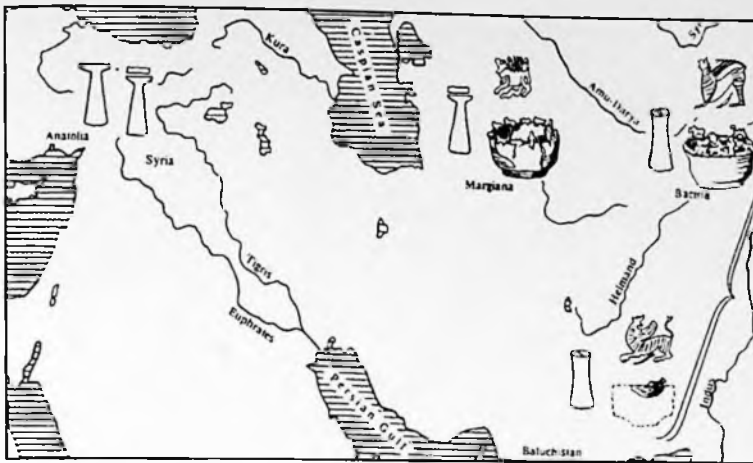


Fig. 3.10. Distribution of 'diminutive columns' and their probable prototypes in the Syrian-Hittite world.

have been visualized in the case of the occurrence of a variety of typical Harappan objects in Central and Western Asia.

PARPOLA'S SWORD

In a paper published in 1993, Asko Parpola, the learned scholar from Finland, states:

A newly found antennae-hilted sword from Bactria paralleling those from Fatehgarh suggests that this same wave of immigrants [from the BMAC] may also have introduced the Gangetic Copper Hoards into India.

While the similarity between the Bactrian and Fatehgarh swords is all right (Fig. 3.11), the theory, on that basis, of

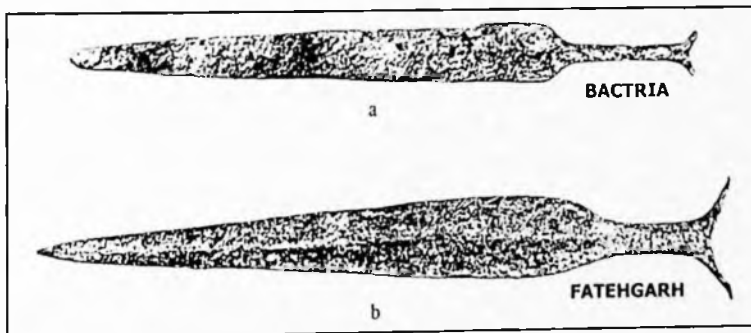


Fig. 3.11. Antennae-hilted swords of copper.



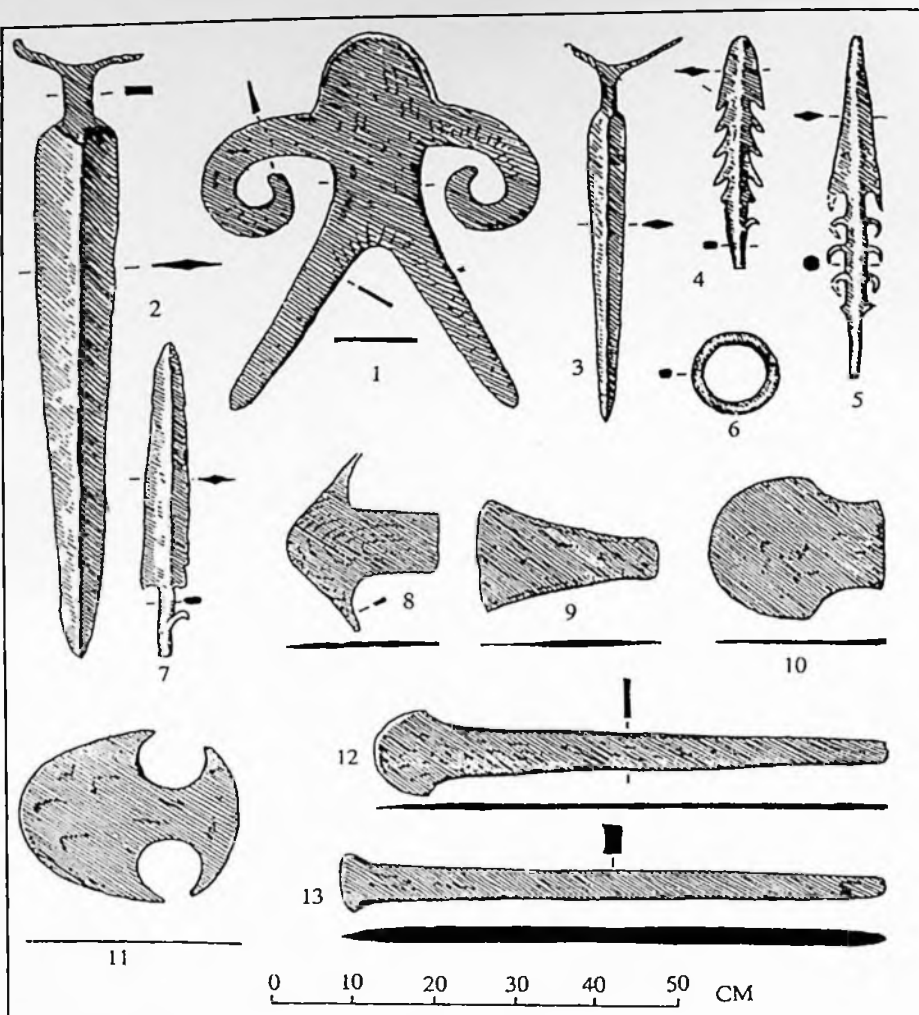


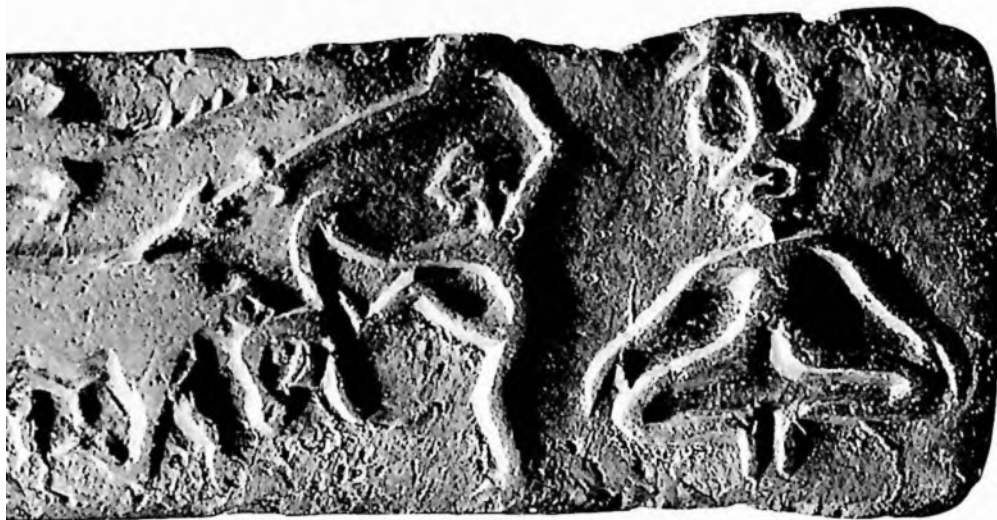
Fig. 3.12. Copper Hoards from the Gangetic valley, India.

immigration of the BMAC people into the Gangetic region, is indeed a far cry! This kind of sword is just a part of the Gangetic Copper Hoards, which include a number of other varieties, such as harpoons, anthropomorphic figures, shouldered axes, etc. (Fig. 3.12), which have never been found in the BMAC context. And that is not the entire point. Whereas in the BMAC area we have found only a single specimen, in the Gangetic region there occur hundreds and hundreds of these Copper Hoard artifacts. Even a beginner in archaeology would straightaway say that



the single BMAC specimen cannot be the parent of the Gangetic Copper Hoard Culture. On the other hand, it is the BMAC specimen which must have been taken there from the Gangetic region. Enough of BMAC immigrants, please!





CHAPTER 4

A Review of the Evidence of Flora Supposedly Supporting the 'Aryan Immigration' Thesis

If the attempt at bringing the Vedic Aryans into India from the BMAC has failed, why not try other means? In this category falls the attempt by certain scholars who hold that that Vedic flora pertains to cold climate and therefore the Rigvedic people must have come from a cold region and cannot be indigenous. Thus, an eminent US scholar, Gregory L. Possehl (who unfortunately is no more), came out in 1996 (p. 65) with the following assertion:

There has been a great deal written about Aryans and Indo-Europeans, much of which is either confused or confusing. Even recent books on these peoples, while they receive much attention,





Fig. 4.1. Close-up of *Asvattha* leaves.

can be old fashioned (e.g. Renfrew 1987). One thing seems certain; the speakers of Vedic Sanskrit are the earliest *well documented* [italics in the original] speakers of an Indo-European language in the subcontinent, and they came from elsewhere. This conclusion comes from a number of sources, the two most important of which are: (1) their books which tell us that they were in new lands filled with non-Aryan peoples and (2) Indo-European words for trees which are species such as birch, Scotch pine, linden, alder and oak. These are plants from a temperate environment and the fact that their names are shared among the early languages of the family suggests a homeland in this environment (Fredrich 1970, specially pages 152-58).

About Possehl's first point, namely that the texts of the Vedic people tell us that they were in new lands filled with non-Aryan peoples, it may straightaway be mentioned that there is no statement in the *Rigveda* to suggest even remotely that 'they were in new lands'. Further, the presence of some non-Aryan people living in the land where the Aryans themselves were living, does not at all prove that the latter were outsiders. The two could have co-existed; that constitutes no problem.

However, it is Possehl's second point, namely the supposed mention of cold-climate trees in the *Rigveda*, which calls for serious scrutiny. I have given a detailed analysis of the Rigvedic



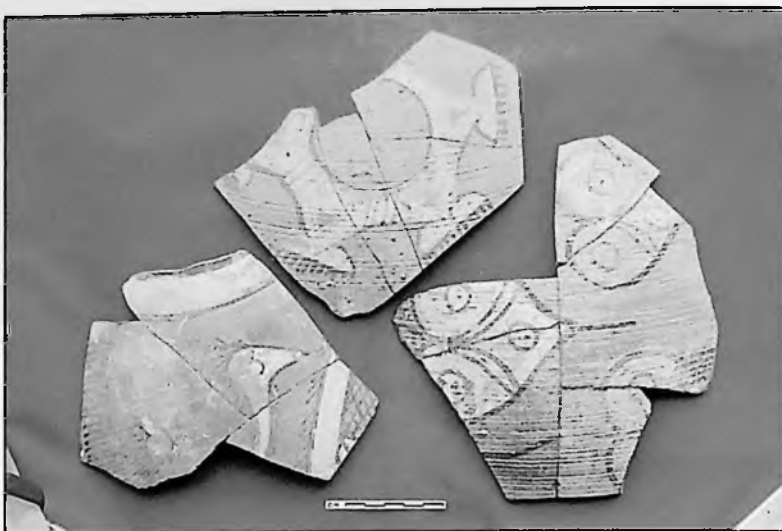


Fig. 4.2. Bichrome painting on pottery from Kunal, depicting the *mayūra* (peacock) and *aśvattha* (peepal) leaves. Ca. 3,000 BCE.

flora in my book, *The Homeland of the Aryans: Evidence of Rigvedic Flora and Fauna and Archaeology* (2005), and interested scholars are invited to go through it. Here, only a summary of the Rigvedic data is given. In this context, it may also be stated that the *Rigveda* is not meant to be an inventory of the trees, and the same are mentioned incidentally, only in a given context. Further, here we also give the areas on a global basis where these trees grow.

Aśvattha (*Ficus religiosa* L.)

The wood of this tree was used for manufacturing vessels in which *sona* was kept (RV 1.135.8). Later Vedic texts attest that its sticks were used for kindling sacrificial fire. Figure 4.1 shows a close-up of *Aśvattha* leaves. (See also Fig. 4.2.)

The tree grows in eastern Afghanistan, Pakistan, India, Sri Lanka and Myanmar.

Kiṁśuka (*Butea monosperma* [Lamk.] Taub., Syn. *Butea frandosa* Roxb./*Butea superba* Roxb.)

Its wood, along with that of *Śalmali* (*Bombax ceiba* L.), was used for making chariots (RV 10.85.20)

Its provenance is India, Pakistan, Bangladesh and Sri Lanka.





Fig. 4.3. Humped bull (*vriṣabha*) on a Harappan seal. Ca. 2,500 BCE.

Khadira (*Acacia catechu* Willd.)

This wood was also used for making chariots (RV 3.53.19).

The tree is confined to India, Pakistan and Myanmar.

Nyagrodha (*Ficus benghalensis* L.)

This tree is not mentioned by its name in the *Rigveda*, but it seems to have been implied in RV 1.24.7. It grows in India, eastern Afghanistan, Pakistan and Sri Lanka.

Vibhīḍaka/Vibhītaka (*Terminalia bellerica* Roxb.)

The nuts of this tree were used for dicing, as suggested by RV 7.86.6. Its provenance is India, Pakistan, Sri Lanka, Myanmar and may occur further east up to Malaysia.



Śālmali (*Bombax Ceiba* L. Syn. *Salmalia malabarica* [DC.] Schott)

As mentioned earlier, while dealing with *Aśvattha*, its wood was used in the construction of chariots (RV10.85.20). Its primary region is India, Pakistan, Sri Lanka and Myanmar, but it may occasionally occur up to Indonesia.

Śiṃśipā (*Dalbergia sisso* Roxb)

The wood of this tree was also used for making chariots (RV 3.53.19). The main region of its occurrence is India, Pakistan and Afghanistan, but it also occasionally turns up in south-eastern Iran, which may be a small extension from the Afghan region.

From the foregoing distribution pattern, it should be abundantly clear that the trees mentioned in the *Ṛigveda* are essentially confined to tropical regions and have nothing to do with cold climate.

It also needs to be emphasized that no cold-climate trees such as birch, pine, alder, etc. mentioned by Possehl occur in the *Ṛigveda*.

In fact, what is true in the case of the flora is equally true in the case of the fauna as well. And here are some of the animals mentioned in the *Ṛigveda*.

Vṛiṣabha (*Bos Indicus*)

The bull is mentioned in many of the hymns of the *Ṛigveda*. In RV 7.101.1, its bellowing has been compared with the rumbling of clouds. In RV 2.33.15, it has been associated with Rudra. In later literature, Śiva has been called *Vṛiṣabhavāhanaḥ*, i.e. 'the one who has the bull as his vehicle' and in sculptures it is the humped bull that has been depicted as the vehicle of Śiva. The humped bull is typical of the Indian subcontinent and, incidentally, occurs on the Harappan seals (Fig. 4.3).

Siṃha (Lion, *Panthera leo* L.)

The lion has been mentioned in more than a dozen hymns of the *Ṛigveda*. It has been regarded as the most dreaded animal. Some of the verses concerned are: RV 1.64.8; 5.83.3; 5.74.4; 10.28.10. It is an animal of hot climate and is met with in its natural habitat in the Gir forest of India and south of Sahara in Africa.



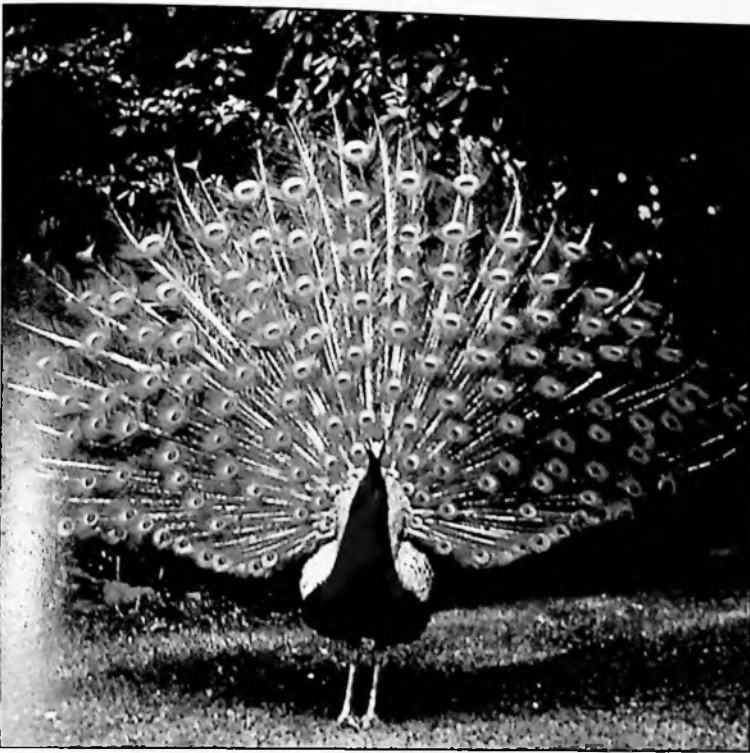


Fig. 4.4. *Mayūra* (*Pavo cristatus*). Cf. Fig. 4.2 for its depiction on pottery around 3,000 BCE.

Hastin/Vāraṇa (*Elephas maximus* L. and *Loxodonta africana*)

Some of the verses that refer to the *Hastin* are: RV 1.64.7; 8.33.8; 10.40.4. This is clearly a hot-climate animal, found in India, South and South-east Asia and Africa. Cold-climate countries are not its home.

Even the birds testify to the *Ṛigveda* having been composed in a tropical climate. In this context, two typical birds are cited below:

Mayūra (*Pavo cristatus* L.)

The *Mayūra* (male) is mentioned in RV 3.35.1 and 8.1.25, while the female, *Mayūrī*, is mentioned in RV 1.191.14. It is one of the most glamorous pheasants (Fig. 4.4). Its habitat is the Indian subcontinent and regions of South-east Asia. A variety of it, known as *Afropavo congensis*, is met with in the Congo basin of



Africa. Thus, it is a bird of tropical regions, having little to do with cold climate.

Archaeological evidence shows that this bird was a very popular motif, having been painted not only on the pottery of Stage IV (Mature Harappan) but also that of Stage II (Early Harappan) (cf. Fig. 4.2).

Chakravāka (Anus casarca)

Mentioned in RV 2.39.3, the pair of this bird, a male and a female, has been eulogized in Indian literature as an example of conjugal fidelity. This is, once again, a tropical bird.

From what has been stated in the preceding paragraphs, it must have become abundantly clear that the flora as well as fauna mentioned in the *Ṛigveda* are typically tropical. Further, no cold-climate flora and fauna find place in this text. **Thus, there is no case to hold that the authors of the *Ṛigveda* belonged to a cold climate.**





CHAPTER 5

Identification of the Sarasvatī: The River par excellence ('*Nadītamā*') during the Rigvedic Times

In the *Rigveda* there is a reference to a large number of rivers. In fact, Verses RV 10.75.5 and 6 mention all the rivers in a serial order from the Gaṅgā-Yamunā in the east to the Indus and its western tributaries in the west. But none of the other rivers gets the 'celebrity' status as does the Sarasvatī. In Verse RV 2.41.16 it has been addressed as *ambītam* (the best of mothers), *nadītam* (the best of rivers) and *devītam* (the best of goddesses):

*ambītam nadītam devītam Sarasvatī /
apraśastā iva smasi praśastimanibha naskṛidhi //*

O Sarasvatī, the best of mothers, the best of rivers, the best of goddesses, we are unknown and insignificant, please favour us with renown, O mother.



The Sarasvatī was even given the status of a full-fledged goddess and was ranked alongside such renowned deities as Agni, Indra, etc. RV 5.46.2 runs as follows:

*Agna Indra Varuṇa Mitra devāḥ Śardhaḥ pra yanta Mārutota Viṣṇo /
Ubhā Nāsatyā Rudro adha gnāḥ Pūṣā Bhagaḥ Sarasvatī juṣanta //*

O gods – Agni, Indra, Varuṇa, Mitra, the Marutas and Viṣṇu, give us strength; O the two Nāsatyas, Rudra, the divine females, Pūṣan, Bhaga, Sarasvatī, be pleased.

According to Verse RV 7.95.2, the Sarasvatī originated in the mountains and flowed all the way down to the ocean:

*ekāchetat Sarasvatī nadīnām śuchir yatī giribhya ā samudrāt /
rāyaśchetanti bhuvanasya bhūrerghṛitam payo dudule Nāhuṣāya //*

The purest amongst all the rivers and vibrant, the Sarasvatī moves on from the mountains to the ocean; manifesting immense riches of the world, she has provided milk and ghee (clarified butter) to Nahuṣa.

That she was a very mighty river echoes from many of the R̥gvedic verses, such as RV 6.61.2:

*iyam śuśmebhīr bisakhā ivārujat sānu girīṇām taviṣebhīrūmbhīḥ /
pārāvataḡlūmavase suvṛiktibhīḥ Sarasvatīmā vivāsema dhūtibhīḥ //*

The (Sarasvatī river) has shattered mountain peaks with her fast and powerful waves, just (as easily) as one uproots the lotus-stems; let us invoke her, who strikes what is far and near, with holy hymns and prayers.

Where is or was this mighty Sarasvatī?

In his book, *Advent of the Aryans in India* (1999), R.S. Sharma, a noted historian who unfortunately is no more, made (p. 35) a very pathetic and completely unfounded statement as follows:

The fundamentalists want to establish the superiority of the Sarasvatī over the Indus because of communal considerations. In the Harappan context they think that after partition the Indus belongs to the Muslims and only the Sarasvatī remains with the Hindus.

He then claims that the Helmand of Afghanistan was the R̥gvedic Sarasvatī:

The Sarasvatī receives much attention in the *R̥g Veda* and several *sūktas* are devoted to it; so they want to use it for their purpose.



But it seems that there are several Sarasvatis, and the earliest Sarasvatī cannot be identified with the Hakra and the Ghaggar. In the *Ṛg Veda* the Sarasvatī is called the best of the rivers (*uadītama*). It seems to have been a great river with perennial water. The Hakra and Ghaggar cannot match it. The earliest Sarasvatī is considered identical with the Helmand in Afghanistan which is called the Harakhwatī in the *Avestā*.

In any case the linguistic and time-place proximity of the *Āvestā* to the *Ṛg Veda* leaves no doubt that the early Vedic Sarasvatī is the same as the Harakhwatī or the Helmand. As the Vedic people expanded they took the name Sarasvatī to Punjab, Haryana and Rajasthan, and also to Garhwal, Prayaga and Rajgir.

The expression 'as the Vedic people expanded' clearly shows that Sharma wrote the above under the spell of the 'Aryan Invasion Theory' which postulates that the Vedic people came from outside and entered India from the west. Thus, according to Sharma the name of the river must have travelled from Afghanistan to India. But, as shown in Chapters 2, 3 and 4, there was no 'Aryan Invasion' nor even 'Aryan Immigration'. Hence the theory of carrying the name of the river from Aghanistan to India does not arise.

In this context, Sharma completely lost sight of the fact that there are no two opinions about the fact that the *Avestā* is later than the *Ṛigveda*. Thus, how could the name from a later text have been 'carried on' to an earlier one? Sharma also ignored the linguistic principle that the 's' sound is transferable into 'h' and not the other way round. Thus, it is the *Ṛigvedic* term *Sapta Sindhu* that gets changed to *Hapta Hindu* in the *Avestā*. Let us not try to misinterpret facts under preconceived wrong notions.

In order to identify the *Ṛigvedic* Sarasvatī, we must look at the data provided by the *Ṛigveda* itself. Verses 5 and 6 of *Sūkta* 75 of *Maṇḍala* 10 of the *Ṛigveda* enumerate all the rivers from the Gaṅgā-Yamunā in the east to the Indus and its western tributaries in the west (see p. 122 for full text). The first line of Verse 5 runs as follows:

inam me Gaṅge Yamune Sarasvatī Śutudrī stonam sachata Paruṣṇyā /

It clearly shows that the Sarasvatī lay between the Yamunā and Sutlej. Since there aren't any rivers by the names of Yamunā



and Sutlej in Afghanistan, how can we dare place the Sarasvatī there?

There is a lot more that negates the theory of identifying the Helmand of Afghanistan with the Ṛigvedic Sarasvatī. For example, as shown earlier, Verse RV 7.95.2 clearly states that the Sarasvatī originated in the mountains and debouched in the ocean. While in Afghanistan there do exist mountains, there is no ocean. Then how can the Ṛigvedic description of the Sarasvatī, as flowing into the ocean, be matched by the Helmand of Afghanistan.

Once again, RV 3.23.4 mentions the Dṛiṣadvatī and Āpayā as being the tributaries of the Sarasvatī.

Dṛiṣadvatyām mānuṣa Āpayānyām Sarasvatyām revadagne didīhi //

In Afghanistan there is no Dṛiṣadvatī nor Āpayā. Then how can the Ṛigvedic Sarasvatī be placed over there?

As we shall see a little later, it is in India that the entire description of the Ṛigvedic Sarasvatī duly fits in. But before we do that there is another misconception which needs to be removed.

Irfan Habib and his son Faiz Habib (1991-92) hold that there were three Sarasvatīs, the first one being the Helmand of Afghanistan, the second the Indus and the third the present-day Sarasvatī running through Haryana, Rajasthan, etc. While we have already commented on the impossibility of the Helmand being the Ṛigvedic Sarasvatī, we shall now show how the Indus too could not have been the Ṛigvedic Sarasvatī. In the *Nadī-stuti* hymn (RV 10.75.5 & 6) the Sarasvatī as well the Sindhu (Indus) are both mentioned separately, which clearly shows that the two are different rivers and not the same.

Now to the positive side. While enumerating the various rivers in a serial order from the east to the west, RV 10.75.5 refers to the Sarasvatī as lying between the Yamunā and the Sutlej. Today also there is a river called the Sarasvatī, which lies between the Yamunā and the Sutlej. It starts at the Siwalik foothills and, moving south-westwards, passes by the towns of Pipli, Kurukshetra and Pehowa, all in Haryana. Considered even today as a sacred river, people go to Kurukshetra to have a bath in it. Downstream from Pehowa it joins the Ghaggar. The combined stream, going by the name of the Ghaggar, flows further down, but dries out near Sirsa. Thereafter there is no water in the river but the dry bed, which is as wide as 6-8



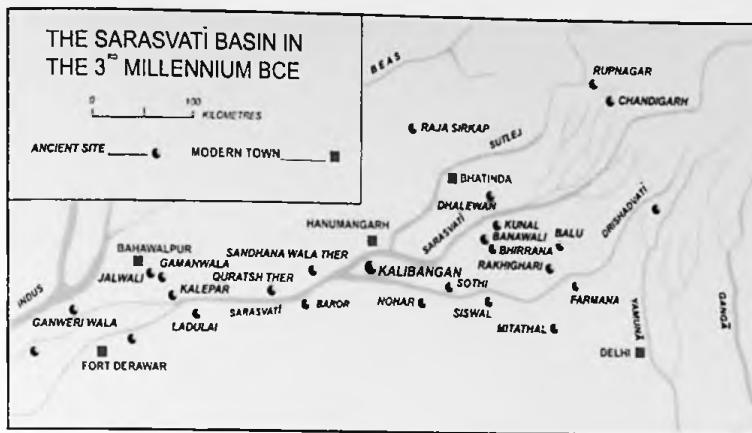


Fig. 5.1. The Sarasvati Basin in the 3rd millennium BCE.

kilometers at places, can be observed all the way down to Cholistan in Pakistan, where it goes by the name of the Hakra, instead of Ghaggar. All through, from Haryana to Cholistan, the banks of this now-dry river are studded with sites, which go back to the fourth-fifth millennia BCE (Fig. 5.1). This clearly establishes that in ancient times the river had plenty of water to sustain the lives of the people who occupied the adjacent villages, towns and cities. It is not known why and when the same river came to be known by different names in Haryana-Rajasthan on the one hand and Cholistan on the other. In fact, further down, in Sindh, it goes by a still different name, namely the Nara. After a careful study of the Nara and the Indus (Sindhu) in the Sindh region, Louis Flam (1999) observes as follows (Fig. 5.2):

In addition to the Sindhu Nadi, the Nara Nadi has been recognized as an exclusive perennial river which flowed in the north-eastern, east-central and south-eastern portions of the Lower Indus Basin in the fourth and third millennia BC... Available evidence suggests that during the fourth and third millennia the delta of the combined Sindhu Nadi and Nara Nadi was located near the Rann of Kachchh on the eastern side of the Lower Indus Basin to somewhere between Hyderabad and Thatta in Sindh.

From the foregoing detailed analysis of the river-system of the Lower Sindh it is clear that the ancient Sarasvatī, in its modern *avatāra* of the Nara, flowed all the way down to the ocean. This duly corroborates the second part of the following



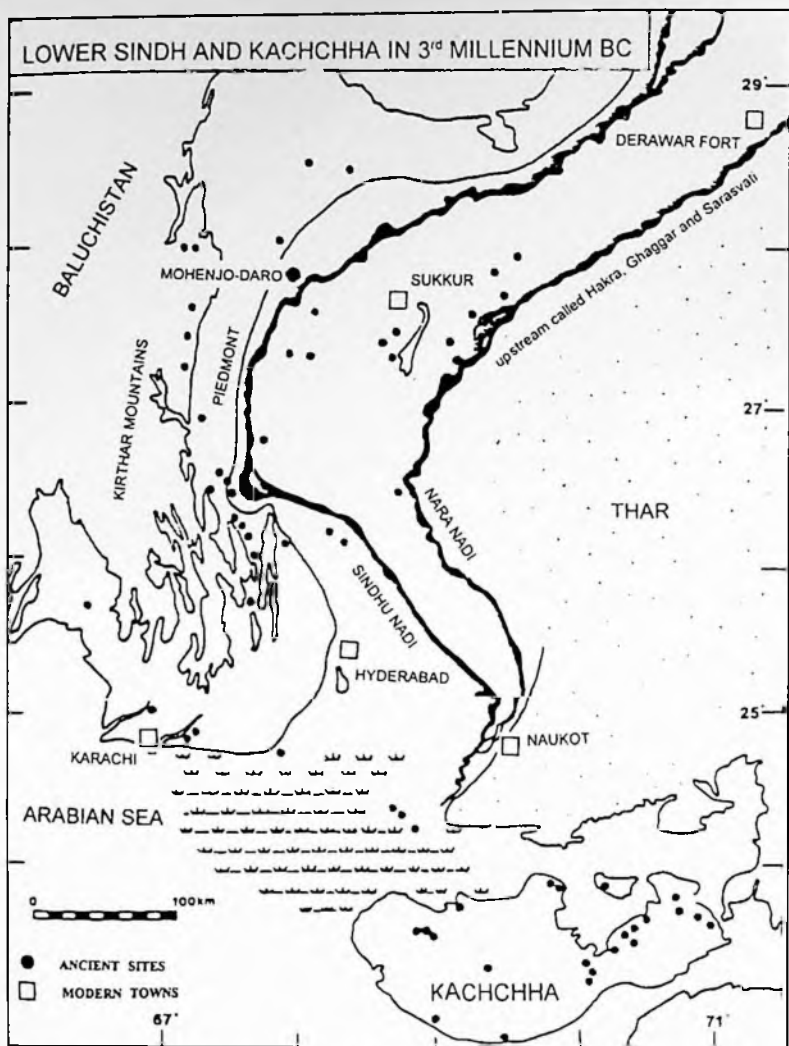


Fig. 5.2. Lower Sindh and Kachchha in the 3rd millennium BCE.

Rigvedic description of the river: *yatī giribhya ā samudrāt* (RV 7.95.2), i.e. it flowed from the mountains all the way down to the ocean.

But the first part of the Rigvedic statement, viz. 'from the mountains', still remains to be corroborated. In this context, we can do no better than to refer to an extensive study made by two eminent geologists, V.M.K. Puri and B.C. Verma (1998). These scholars have identified four terraces in the mountainous



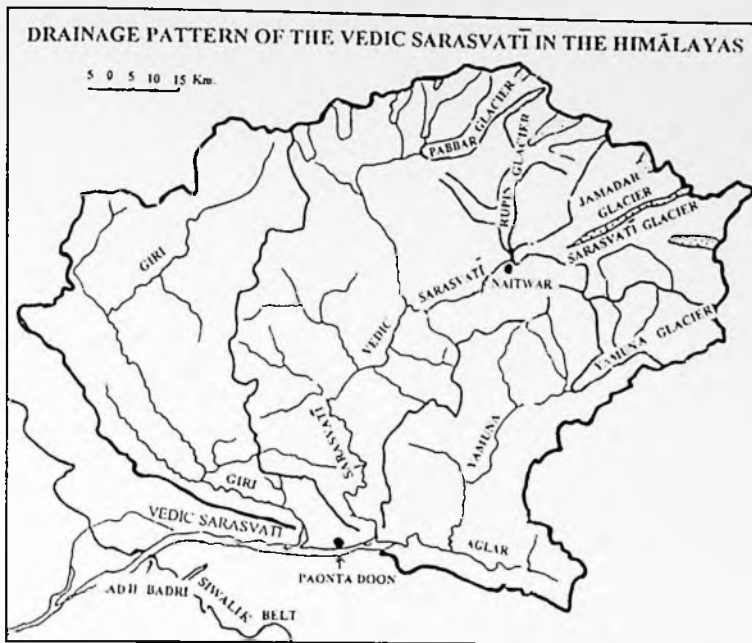


Fig. 5.3. Drainage pattern of the Vedic Sarasvati in the Himalayas.

region between the Yamunā and the Mārkaṇḍā rivers, which they have named T_0 , T_1 , T_2 and T_3 from the top downwards. The highest of these terraces, viz. T_0 , identified near Sandanwala, rises to a height of 660 m above the Mean Sea Level (MSL). It is characterized by the occurrence in it of pebbles of quartzite and metamorphic rocks. T_0 and T_1 have been identified in the neighbouring areas as well and found to have similar lithological composition. However, the lower terraces, viz. T_2 and T_3 , are bereft of this kind of material, except along the present-day course of the Yamunā. Based on the available data, these scholars affirm:

Thus the terraces studied in Sandanwala, Bata, Garibnath and Markanda provide an irrefutable geological evidence to suggest a course of a river that was flowing in almost west-north-westerly direction in the past. Its dimension was very large as it contained a very high discharge that traversed in its upper reaches a terrain of quartzite and metamorphic rocks. Moreover, in the Paonta valley there is a clear evidence that prior to the present Yamunā river there existed a major river-channel at a much higher elevation that followed a westerly



and south-westerly course through a route now almost completely obliterated on the Siwalik platform due to erosion but its terraces are still observed along Adh Badri-Markanda link in the plains immediately to the south of Siwalik belt.

As to the source of this mighty river, which is now lost, Puri and Verma draw our attention to the basin of the Tons where quartzite and metamorphic rocks dominate. In sum, they affirm:

...All the evidences point to only one conclusion that that the present-day Tons was in fact Vedic Sarasvatī in its upper reaches.

Puri and Verma have also produced an excellent map (here Fig. 5.3), which shows that the ancient Sarasvatī was the outflow of the waters from the various glaciers in the Himalayas. This corroborates the Ṛigvedic statement 'yāti giribhyaḥ', i.e. the Sarasvatī originated in the mountains. Further, the tremendous amount of water that it received from the glaciers made it so mighty that—

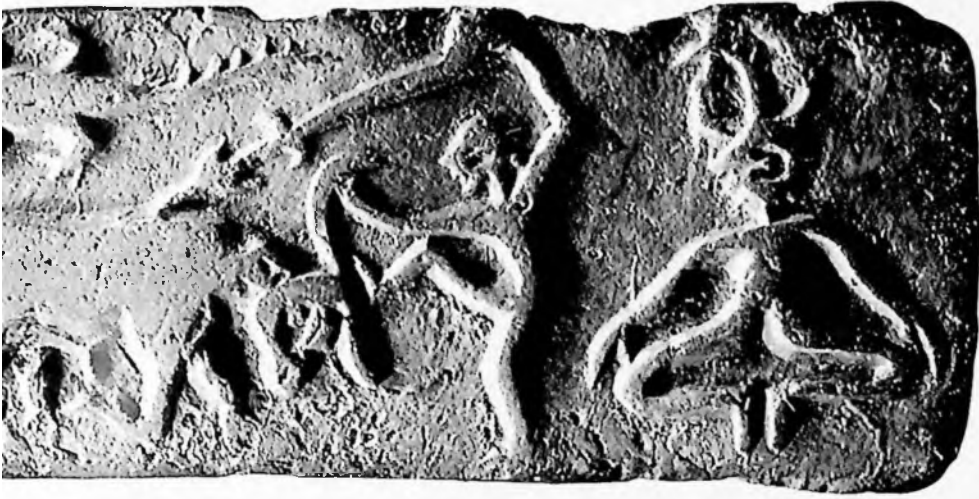
iyam śuṣmebhir bisakhā ivārujat sānu girīṇāṃ taviṣebhirūrmibhiḥ
(RV 6.61.2)

This (Sarasvatī) has shattered the mountain peaks with her fast and powerful waters.

From what has been stated in the preceding pages it must have become abundantly clear that the Ṛigvedic Sarasvatī is to be identified with the now-dry river, which goes by the names of: the Sarasvatī-Ghaggar in Haryana and Ghaggar in Rajasthan (both in India), and by the names of the Hakra in Cholistan and the Nara in Sindh (both in Pakistan), and not with the Helmand of Afghanistan.*

* There have been many publications on the subject, amongst which attention may be invited to one by Michel Danino, *The Lost River: on the Trail of the Sarasvatī*, Penguin Books, 2010. It contains copious references to earlier publications.





CHAPTER 6

From Pit-dwellings to Fortified Cities: The Evolution of Civilization in the Sarasvatī Basin

1. INTRODUCTORY

In the preceding chapter we have had a detailed discussion on the identification of the famous Ṛgvedic river Sarasvatī and do not propose repeating the same here. Suffice it to recall that it is none other than what goes by the name of the Sarasvatī-Ghaggar combine in Haryana and the Ghaggar in Rajasthan (both in India), and by the names of the Hakra in Cholistan and the Nara in Sindh (both in Pakistan), reaching all the way down to the Arabian Sea.

In the present chapter we propose showing that there is a continuous story of evolution of civilization in the Sarasvatī



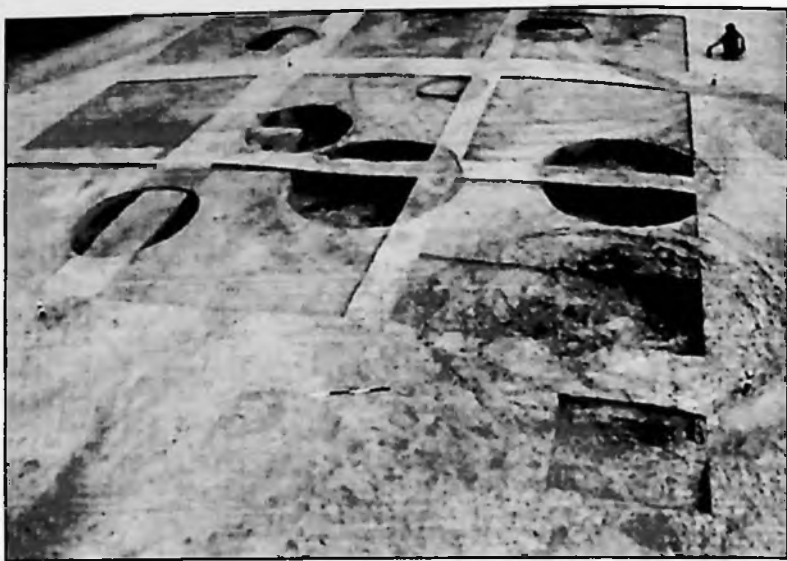


Fig. 6.1. Bhirrana: Dwelling-pits, Stage I.

basin, right from the time when its first (as known today) occupants started living in 'Pit Dwellings' in the 5th millennium BCE up to the time when they built fortified and highly prosperous cities in the 3rd millennium BCE. There is no cultural break in this evolution nor is there any infiltration of people with an alien culture. Hence, we have decided to use the term 'Stage' (such as Stage I, Stage II, etc.) when a noteworthy change took place in the course of an ongoing cultural evolution. We have consciously avoided the term 'Period' because it is normally to be used when there is a break of occupation and a subsequent re-occupation of the site, usually involving the appearance of a different cultural complex.

2. STAGE I: THE PIT-DWELLERS

A. BHIRRANA

The curtain rises at Bhirrana (29° 33' N; 75° 33' E), a somewhat sleepy village located at a distance of about 15 kilometres north-east of Fatehabad, a district headquarters in Haryana. The nearest railway station, Hissar Junction, is some 60 kilometres away, which makes it more sensible to undertake journey by road to Bhirrana. A little away from the village, on the left bank of the ancient Sarasvatī, which is now dry and is known as



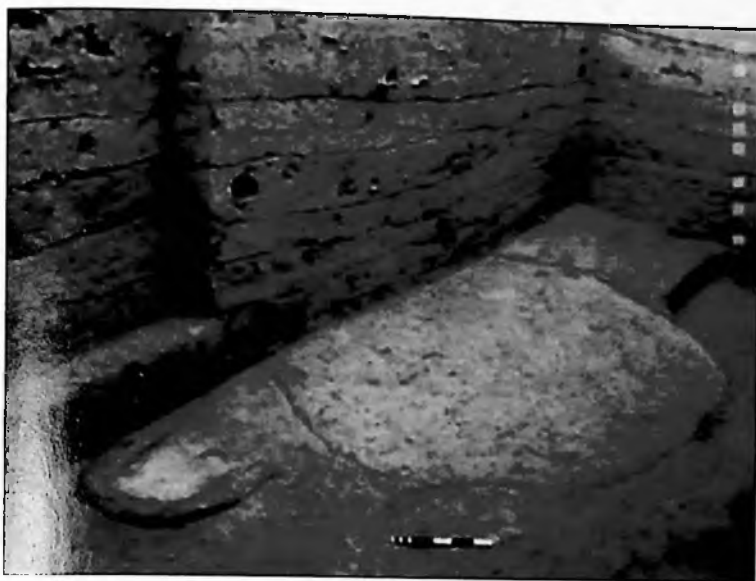


Fig. 6.2. Bhirrana: Close-up of a rammed floor with hearth, Stage I.

the Ghaggar, lies the ancient mound, measuring on plan about 190 m east-west and 150 m north-south and rising at places to a height of 5.50 m above the surrounding ground level.

(i) The Nature of the Pits

The excavation at the site, carried out for three seasons between 2003 and 2006 (L.S. Rao et al. 2005 and 2006 and Nandini Bhattacharya-Sahu 2012), made a somewhat startling revelation that the first settlers over here lived in circular pits dug into the then ground-level (Fig. 6.1). These pits measured from 2.30 m to 3.40 m in diameter and from 34 cm to 58 cm in depth. For all intent and purposes these were not formidable pits, but just sufficient to accommodate a couple and, at best, a child or two. The walls were plastered with mud and the same treatment was also given to the floor. The excavators have stated that they did not come across any holes along the edge of these pits, which could have carried posts to support a peripheral wall. However, in one of the pits they did find a chunk of clay bearing reed-impressions, which has suggested to them that, in all probability, there was some kind of covering of wattle-and-daub. This is understandable since sleeping in the pit without



any overhead shed, particularly during winters, would have been hazardous. Perhaps further work at the site might make the picture much clearer. These 'dwelling pits' were complemented with other pits which, their contents suggest, were used for cooking, sacrificial (?) and even industrial purposes. In one of the pits there occurred charred bovid skulls, as well as other charred bones, pottery and ash. Of further interest was the discovery, close to a 'dwelling pit', of a low, circular mud platform and an open-mouthed hearth, the latter evidently having been used for cooking and the platform for sitting close by (Fig. 6.2).

(ii) The Cultural Level

One would have normally thought that these pit-dwellers of Bhirrana were at a 'Neolithic' level of culture, using stone axes and other tools. But that was not the case. Interestingly, the inhabitants had well stepped into 'Copper Age', as clearly established by the occurrence in these strata of a bangle and an arrowhead of copper. In fact, in one of the pits fragments of crucibles with specks of molten copper still sticking to them have also been found indicating local manufacturing activity. On other counts too the people showed a pretty high level of industrial and cultural development. For example, there occurred beads of semi-precious stones such as agate, carnelian, jasper and even lapis lazuli, the last-named material having had its source far away in the west. Querns and pestles of sandstone were evidently used for grinding materials for cookery, while sling balls of terracotta and sandstone may have been used for hunting small games. Not much was found by way of ornaments used by the women folks, except for the beads already referred to, which may have made nice necklaces, and copper and terracotta bangles, the latter being both plain and painted. Perhaps it may be well worth while to draw attention to the presence of triangular 'cakes' of clay, which, though unbaked, seem to be the harbinger of baked triangular terracotta cakes that become a very distinctive feature of the subsequent Mature Harappan Civilization (Stage IV). Again, one example of chert blade is also to be noted for its presence since such blades do become a regular feature of the Harappan repertoire.





Fig. 6.3. Bhirrana: Mud Applique Ware, Stage I.

(iii) *The Pottery*

What is most noteworthy is the distinctive pottery used by the pit-dwellers of Bhirrana. It has come to be known in archaeological literature as the 'Hakra Ware', because of its having been identified for the first time in the Cholistan region of Pakistan, where the dried-up Sarasvatī river goes by the name of the Hakra (M.R. Mughal 1997).

Amongst the Hakra Wares, the most distinctive one is what is known as the 'Mud Applique Ware'. In this case, the pots have a coating of mud mixed with white calcareous granules (Fig. 6.3). The shapes are either globular pots, which are usually wheel-made and have a somewhat thin coating, or heavy-bodied storage jars which are hand-made and covered with a thick coating.

Under another noteworthy category come 'Incised Wares' (Fig. 6.4). The incised designs, appearing on the exterior of the pots which had no slip on them, were executed before firing and fall into two broad categories, namely deeply incised and shallow ones. The former include rows of chevrons and criss-crosses, covering the area from the shoulder to the belly. Above and below these incised patterns sometimes there were horizontal bands in black colour. The shallow designs, usually executed on smaller vessels, include wavy lines which had above





Fig. 6.4. Bhirrana: Deep Incised Ware, Stage I.

and below them two or three parallel, horizontal incised lines. A very distinctive shape of pot in the Incised Ware was that of handled vases, which may have been used as jugs for drinking water.

Yet another noteworthy category associated with the dwelling pits was that having tan or chocolate slip. The slip was sometimes confined to the neck, but in other cases went to the belly or even all the way down to the base. There were quite a few varieties of shapes in this ware, which included straight-sided bowls, troughs, ring-based pots and globular pots with everted rims.

Then there was the red ware, sometimes plain and at others painted in black colour with designs like loops, triangles and criss-crosses.

(iv) The Chronological Horizon

How old are these pit-dwellings? To answer this question one has but to refer to the Carbon-14 dates supplied by the Birbal Sahni Institute of Palaeobotany, Lucknow, to which eight charcoal samples, recovered from the site during the course of the 2003-04 field-season, were sent. These were published by L.S. Rao et al. in *Purātattva* 35, 2005, p. 67 and are reproduced below:



Sample ID	BS No.	C ¹⁴ Age (Yr. BP)	Calib. Age Range (1 Sigma) Yr BP	Yr. BCE
BRN 1	2308	3300 ± 200	3826-3274	1876-1324
BRN 2	2327	40 ± 80	31-93	contaminated
BRN 3	2310	3190 ± 160	3629-3214	1697-1274
BRN 4	2311	3890 ± 90	4442-4153	2492-2213
BRN 5	2318	6120 ± 250	7286-6671	5336-4721
BRN 6	2333	7590 ± 240	8597-8171	6647-6221
BRN 7	2314	5700 ± 170	6720-6303	4770-4353
BRN 8	2301	4050 ± 90	4806-4418	2856-2468

The sad part about this Table is that it does not specify the exact stratigraphic horizon of the individual samples. These are just numbered as BRN 1 to BRN8. Unfortunately, the principal excavator of the site passed away some time back and right now there is no one to clarify the position. Let us, however, try to make the best of a somewhat bad situation. Sample BRN2, according to the comment given in the Table itself, is contaminated and has, therefore, to be discounted. Samples BRN1 and BRN3 fall within the 2nd millennium BCE and may perhaps relate to a late stage of the Harappan Civilization. The dates of samples BRN4 and BRN8, being respectively 2492-2213 BCE and 2856-2468 BCE, would appear to relate to the Mature Harappan Civilization. We are now left with samples BRN5, BRN6 and BRN7, which give the dates as 5336-4721 BCE, 6647-6221 BCE and 4770-4353 BCE, respectively. These may perhaps relate to the earliest settlement at the site, namely that of the 'Pit-dwellers'. Since the date 6647-6221 BCE is far too early, it may, for the time being, be set aside. The two other dates, namely 5336-4721 BCE and 4770-4353 BCE, are significant. Thus, in the present state of our knowledge, it would be reasonable to assign a 5th millennium BCE horizon to the 'Pit-dwellers' of Bhirrana, if not somewhat earlier.

(Note: There are subsequent cultural stages at Bhirrana, but we shall deal with the same later.)



B. KUNAL

Not far from Bhirrana and also located on the left bank of the now-dried Sarasvatī, the ancient mound at Kunal (Lat. 29° 30' N; Long. 75° 41' E) covers an area measuring approximately 3 acres and rises to a height of about 4 m above the surrounding ground level. It falls in Tehsil Ratia of District Hissar, Haryana and can be approached via Bhuna, a town about 12 km away from the site. The excavations over here were carried out by Shri J. S. Khatri and Shri M. Acharya, officers of the Haryana Government (Khatri and Acharya 1995).

Originally, the land surface over here was undulating and unfit for direct occupation. Hence, the first inhabitants thought it fit to level it up by spreading over it about 70cm of red kankary earth brought from the neighbourhood. The inhabitants then dug into this surface and the underlying natural soil pits for their dwelling. These pits were of varying sizes on plan and in depth. One of these measured about 2 m in diameter and a little over 1 m in depth. Its floor was rammed and the walls smoothened so as to make it fit for living. These pits were not left open to the sky but seem to have been duly covered. This is suggested by the discovery of holes along the periphery, which evidently served as bases for holding posts inserted in them. The superstructure may have been that of wattle-and-daub or just a thatched one. Cooking seems to have been done outside the dwelling pit, there also being a small pit nearby to hold refuse.

The pottery used by these earliest inhabitants of Kunal was more or less similar to that used by their counterparts at Bhirrana (already described in some detail earlier). The two characteristic wares of the Hakra complex referred to in the context of Bhirrana, viz. the Mud-applique and Incised Wares, were conspicuous by their presence. In addition, there was a bichrome ware in which two colours, namely black and white, were used – the former for the outline of the design and the latter for infilling (Fig. 4.2).

These Kunal pit-dwellers, like their Bhirrana counterparts, had duly entered the 'Copper Age', which is clear from the occurrence of fish-hooks and arrowheads, the former used for catching fish and the latter for killing small games – obvious supplements to their cereal diet. In respect of the arrowheads,



it may be mentioned that these were of the 'Inverted-V' type. Further, within this general type, there were two sub-types: in one case the sides on the exterior were straight, while in the other these were incurved towards the lower end—a type conspicuously present at the Copper Age site of Ganeshwar in Rajasthan.

Within Stage 1 there is what may be called its Sub-stage (Period Ib of the excavators). Now, the walls of the pits were provided with a lining of mud bricks, to give them better stability and surely a better look. However, the bricks were not standardized, their sizes being 10x ...x37 cm, 11x ...x 38 cm and 11x24x39 cm. The size of the pits also increased – up to 3 m in diameter, perhaps to provide room for an extended family. Also, within the pit itself mud brick hearths were observed, indicating that cooking was done within the dwelling pit itself.

In this sub-stage, the quantum of the Hakra Ware, particularly the Mud Applique Ware, began to diminish, while that of the Bichrome Ware somewhat increased. Figure 4.2 illustrates three potsherds of this ware, amongst which particular attention may be drawn to one bearing the peepal leaf design and another, the peacock. Both are characteristically Indian. In fact, the peacock has been adopted by the Government as the 'National Bird'. These two motifs also continue, with greater frequency, in the Mature Harappan times (Stage IV), which will be dealt with in detail subsequently. In this sub-stage there also occurred certain pottery shapes, such as jars and beakers in sturdy red ware, which clearly anticipate their Harappan counterparts. Likewise, one may also note the presence of a few specimens of terracotta 'cakes' which, again, remind one of the Mature Stage.

C. THE CHOLISTAN REGION

We may now move all the way down the Sarasvatī river to the Cholistan region in Pakistan. Here Mohammad Rafique Mughal had carried out extensive explorations during four field-seasons, from 1974 to 1977 (Mughal 1997). The dry bed of the Sarasvatī is known in this region as the Hakra, after which the earliest pottery complex discovered in the area has been named as the Hakra Ware Complex.





Fig. 6.5. Cholistan: Hakra Incised Ware, Stage I.

The exploration brought to light 99 sites of the Hakra Ware Complex, 40 of Early Harappan Culture, 174 of the Mature Harappan Civilization, 50 of Late Harappan times and 14 of the Painted Grey Ware Period. Since we are concerned just now with the earliest, i.e. the Hakra Ware sites, we shall deal with them in some detail.

According to the observations of Mughal, '52% of the total number of the Hakra Ware sites represent camp sites, while 45% are permanent settlements.' Since Mughal has not carried out any worthwhile excavation in the region (except for a minor trial pit at one site), it is difficult to offer any comments on the nature of these sub-categories, namely whether the camp sites were chronologically a prelude to the permanent settlements or the occupants of the temporary camps were just nomadic people moving from place to place, supplying milk, meat and similar materials to the communities settled at the permanent sites, and perhaps attending to their other needs.

Although we have already dealt with the Hakra Wares in the context of Bhirrana, these, representing the most distinctive feature of this Stage, are dealt with in some detail here, quoting wherever necessary from the description given by Mughal



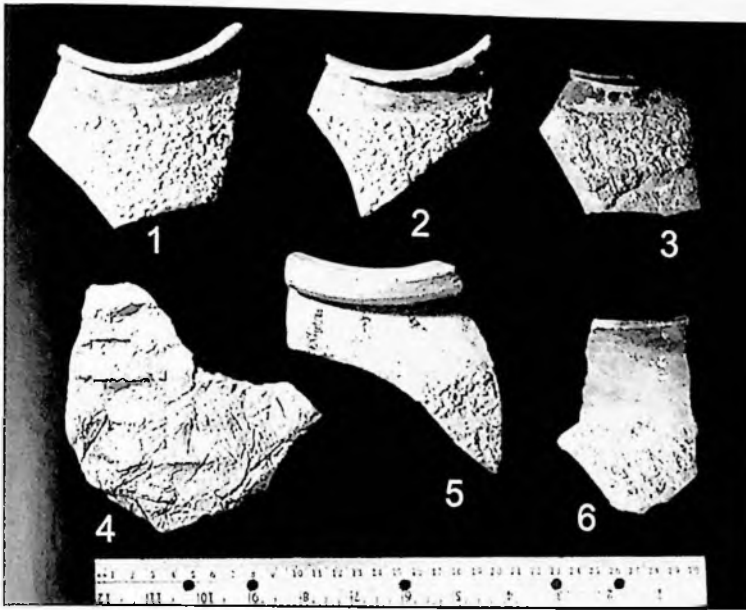


Fig. 6.6. Cholistan: Hakra Applique Ware, Stage I.

himself (Mughal 1997, pp. 63 ff.). The first category he refers to is the 'Hakra Incised' Ware: his Category 'a'. "It is characterized by thick and thin, large and small vessels decorated on the external surface with groups of multiple incised lines drawn horizontally, diagonally and in a wavy manner. It is extremely well fired and thick." The vessels are wheel made (Fig. 6.5).

His next category ('b') is the 'Hakra Applique' Ware. Says he: "A thick coating of mud mixed with small pieces of pottery and applied to the external surface of the vessels of many shapes and body thickness, is the most distinguishing feature of pottery grouped under this category. It is necessary to stress that the Hakra Applique with a thick body (texture) is all handmade." (Fig. 6.6).

Thereafter Mughal makes an important remark: "In general terms, it may be significant to point out that at sites where Hakra Applique is most frequent, the Hakra Incised occurs less in number and vice versa." What it implies, Mughal has not cared to explain.

Yet another noteworthy category amongst the Hakra Wares is what has been termed as 'Hakra Black Burnished'. It includes "wheel-made carinated vases of thin fabric, red body and





Fig. 6.7. Cholistan: Lithic material (Nos. 1-46) associated with the Hakra Wares; beads of terracotta and stone; and bits of copper and shell pieces; all belonging to Stage I.

23061

painted with a glossy black slip on the external surface. Rims of such vases are sharp and a carination above the base is very distinctive. Large vessels with high neck in this category are painted with non-glossy black colour all over the external surface. ...In addition, wide-shouldered vessels with sharp carination in the middle of body are present recalling shapes from the site of Anjira in central Baluchistan."

Rare examples of white-and-black paint also occur and so do a few shards of painted buff pottery.

Talking of the antiquities associated with the Hakra Culture in Cholistan, one is immediately struck by the presence of microliths. The types include small parallel-sided blades as well as long blades with retouched edges (Fig. 6.7). Then there are a few other tool-types including scrapers and points. A variety of stones was used for these microliths, including such non-local ones as the agate. However, the presence of a few cores would indicate that at least some of the tools were made locally.

In this context, it may be mentioned that no microliths were met with at Bhirrana. What does this imply? Does it mean that the Cholistan sub-stage of the Hakra Culture is somewhat earlier than that at Bhirrana? We must, however, await the discovery of



a few more exclusively Hakra Ware sites along the upstream region of the Ghaggar-Sarasvati combine before arriving at any conclusion.

The other antiquities from these Hakra Ware sites in Cholistan include: bangles, variously of terracotta and shell; grinding stones; long cylindrical pestles and humped animal figurines with short legs, both of terracotta. From one of the sites also came up the hind part of a terracotta figurine with four udders – evidently a cow.

Since no excavation was carried out by Mughal at any of the sites in Cholistan, it is difficult to say anything about the nature of the dwellings of the Hakra Ware people. Were they living in pits, as did the Hakra Ware people of Bhirrana and Kunal? Only excavations of selected sites, of both the categories, namely 'camp sites' and 'permanent settlements' can throw light on the issue.

As to the chronological horizon of the Hakra Ware sites in Cholistan, there is no direct evidence, as exists in the case of Bhirrana. However, at Jalilpur, near Multan, Mughal himself discovered this Ware in deposits underlying those of the Kot Dijian Culture (Mughal 1972 and 1974). And since the Kot Dijian Culture is ascribable to the 4th millennium BCE, the Hakra complex of Cholistan would certainly ante-date that. For all one knows, it may well go back to the 5th millennium BCE.

3. STAGE II: THEY EMERGE OUT OF PITS AND START BUILDING ON LAND-SURFACE

A. BHIRRANA

We resume our story at Bhirrana, from where we left it. In Stage II, the people gave up their pit-dwellings and began settling on the land-surface itself. Perhaps the need for more space due to extended families and inconveniences owing to restricted areas within the pits, made them come up on the surface. During this stage, more or less the whole mound was occupied. The houses were made of mud bricks, which measured 13x26x39 cm or 14x28x42 cm or 15x30x45 cm, i.e. in a set thickness: width: length ratio of 1:2:3. Mud mortar was used for binding the courses, of which as many as three were extant in one case.

It is worth noting that at this stage, the excavator found no peripheral (fortification) wall around the settlement, which becomes conspicuous in Stage III.



Within some of the houses circular pits were also noted. From one of the pits were recovered many female figurines of clay, some complete and others broken. All these are hand-modelled. One of the figurines has a bald head, beaked nose and only one, prominent, breast. Some of the figurines wear girdles made of pellets. In some cases, the arms, though broken, still show armlets. The lot includes five torsos, which terminate at the waist-level. In another pit was found a charred bovine skull. In this context, it may be recalled that even during Stage I, two of the dwelling pits yielded charred animal skulls. The female figurines and charred skulls – do these indicate some kind of ritual?

Amongst other antiquities, mention may be made of: bone points, chert blades, beads of semi-precious stones, terracotta bangles and arrowheads of copper.

In respect of the pottery, while some of wares of Stage I continue, a few other wares make their appearance. The bichrome ware (with black outline and white infilling), very limited in Stage I, becomes a little more conspicuous. The designs include, besides simple bands, loops and wavy lines, floral and faunal motifs such as peepal leaf and the fish. The incised pottery also continues, in which more noteworthy are bowls and basins with deeply incised designs on the interior. There also comes into being a grey ware in which the more noteworthy shapes are bowls with blunt carination, offering stands and small vases.

B. KUNAL

As at Bhirrana, at Kunal too, the inhabitants chose to give up their pit-dwellings and took recourse to building houses on the land surface. The houses were square or rectangular, made of mud bricks. It is interesting to note that whereas at Bhirrana the bricks were only in the ratio of 1:2:3, at Kunal in addition to this ratio a new one was also introduced, namely 1:2:4, the actual sizes being 9x18x36 cm and 11x22x44 cm. Perhaps the inhabitants were experimenting with brick sizes in order to arrive at a more convenient ratio. Bricks in the ratio of 1:2:4 are suitable for constructing walls in successive courses of 'headers' and 'stretchers', a style now known as the 'English Bond'. It needs to be added that during the Mature Harappan times (our Stage





Fig. 6.8. Kunal: Silver ornaments, Stage II.

IV) bricks in the ratio of 1:2:4 alone were used. People also became drainage conscious and fixed soakage jars as necessary. For the storage of grains, circular silos were dug and plastered with a mixture of clay and *chunam*, the latter being a good insecticide. Such storage pits continue to be used in Stage III, for example at Kalibangan.

Ascribable to Stage II there were three structural phases, the succeeding structures being a bit more commodious than the previous ones. An increasing prosperity is also reflected by the objects recovered from the houses. Besides a large number of beads of semi-precious stones, there were many noteworthy objects in copper, silver and gold. The discovery of a copper-smelting furnace, from where a terracotta crucible with molten metal still sticking to it has also been found, clearly proves that the copper objects were manufactured locally. These included: flat axes, spearheads, inverted-'V'-shaped arrowheads, fish-hooks, coiled cones and finger-rings. Most of these types duly anticipate the ones found during the Mature Harappan times (Stage IV).

In one of the larger houses the excavators found a treasure-trove of gold and silver ornaments. These were wrapped in a silver sheet and placed in a globular pot buried in a pit. To





Fig. 6.9. Kunal: Spiralled bangle, silver, Stage II.

quote the excavators, “the silver objects include two tiaras, one small and one large, each with a large fully opened flower having petals topped with a decoration like the Greek letter alpha” (Fig. 6.8). And this is not all. Along with these two silver objects there also occurred a spiralled silver armlet (Fig. 6.9), which reminds us of spiralled bangles worn by the famous ‘dancing girl’ from Mohenjo-daro.

The affluence of the Kunalians is further confirmed by the discovery, in other houses, of a large number of gold and silver ornaments, besides beads of agate and lapis lazuli. Of the ornaments, particular attention may be drawn to discular beads of silver with perforation for threading along the diameter (Fig. 6.10). This type anticipates the Mature Harappan one, in gold, found at Lothal (Fig. 6.11). The occurrence of lapis lazuli beads has a lot to say in respect of long-distance trade, since this material is not found anywhere in the neighbourhood but had to come from as far away as Baluchistan or Afghanistan.

Attention may also be drawn to the occurrence at Kunal of six seals of steatite and one of shell. Shell, again, is not a local commodity but had to come from a far-off region. The steatite



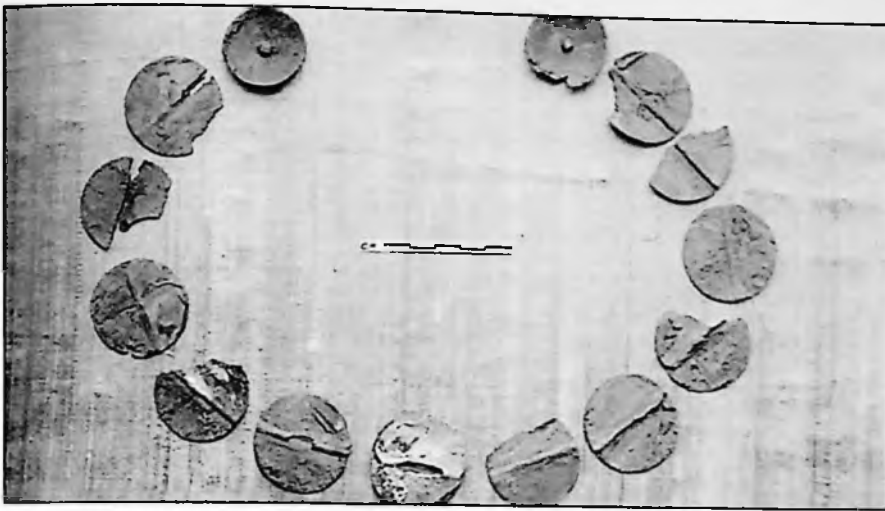


Fig. 6.10. Kunal: Discular beads of silver, having perforation along the diameter, Stage II.

seals, square in shape with a perforated knob on the reverse remind us, shape-wise, of the steatite seals from the Mature Harappan levels. The Kunal examples, however, bear only geometric designs and not animal/human motifs or inscriptions as do the Mature Harappan ones. Anyway, seals do indicate their use for sealing commodities and thus trade activities.

Let us, for a while, try to visualize the socio-administrative set-up at Kunal. The occurrence in one of the large houses of a cache of silver ornaments, which included two 'tiaras', seems to suggest that the owner of the house was no commoner, but someone in particular. Could he have been a 'Chief' having some sort of a sway over the others? This is just a guess, but surely not a wild one.

C. RAKHIGARHI

A river named *Driṣadvatī* has been mentioned in the *Rigveda* (RV 3.23.4) as one of the tributaries of the *Sarasvatī*. It has been identified with the modern Chautang, which, like the *Sarasvatī* (Ghaggar), is also now dry. Its dry bed meets that of the Ghaggar around Suratgarh. It is on the right bank of the *Driṣadvatī* that the ancient site of Rakhigarhi lies. It falls in Hissar District of Haryana.

Rakhigarhi can easily be counted as one of the largest sites of the Harappan Civilization, covering an overall area of about



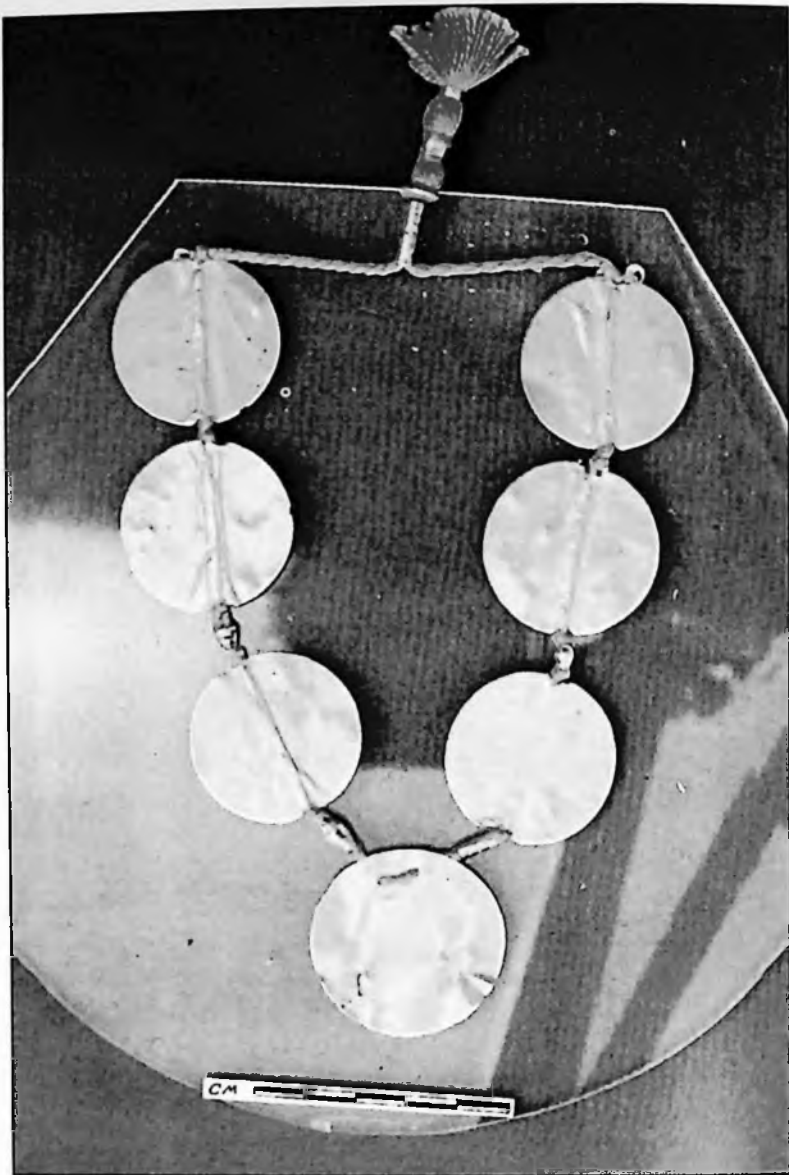


Fig. 6.11. Lothal: Discular beads of gold, having perforation along the diameter. Stage IV.

105 hectares (Nath 1997-98 and 1998-99). Although owing to wear and tear over the past several millennia, its peripheral areas have been denuded, yet even today some parts rise to a height of about 14 meters above the surrounding plains. Besides, it has also been found that at places the ancient remains go down



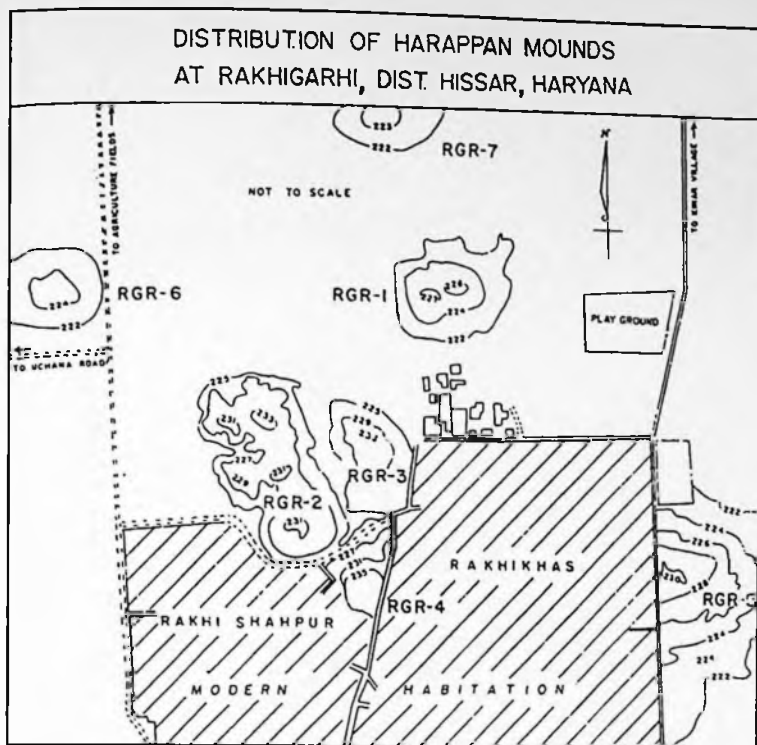


Fig. 6.12. Rakhigarhi: General Plan of the site.

to a further depth of about 4.5 meters below the plains. Figure 6.12 shows the various parts of the site, as named by the excavator. Of these, RGR-1, RGR-7 and RGR-6 are a little away, while RGR-2 to RGR-5 are contiguous.

Of these areas, it is RGR-6 that has yielded a great deal of information about our Stage II. The entire 4.5 m-thick deposit in this area is anterior to the Mature Harappan times, i.e. prior to our Stage IV. Within the top 2.5 meters, as many as four structural sub-periods were identified. The houses were oriented along the cardinal directions. The sizes of the bricks used was: 12 x 24 x 36 cm, 14 x 28 x 42 cm, i.e. in the ratio of 1: 2: 3. A lane measuring 1.8 meters was also identified between two of the houses. The planning of the houses seems to have been on the pattern of providing a central courtyard around which were located the living rooms – a pattern which continued up to our Stage IV (Mature Harappan times). In one of the houses, a circular oven with a diameter of 85 cm was also found. It was internally



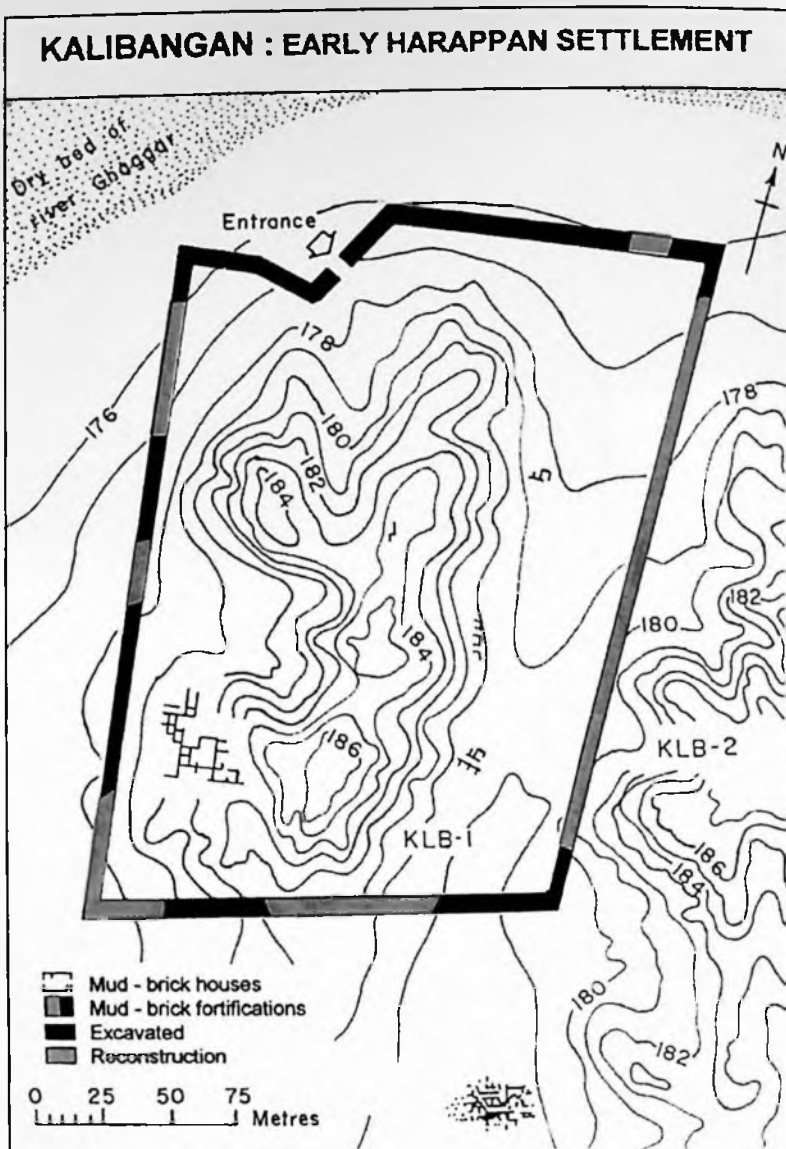


Fig. 6.13. Kalibangan: Plan of peripheral walls of Stage III.

plastered and its sides and base were red because of long contact with fire.

Because of the successive structures in the upper part, not much area of the earlier levels could be exposed. Nevertheless, the presence of floors and ash-cum-charcoal deposits indicated residential activity. In fact, at one level, the presence of two



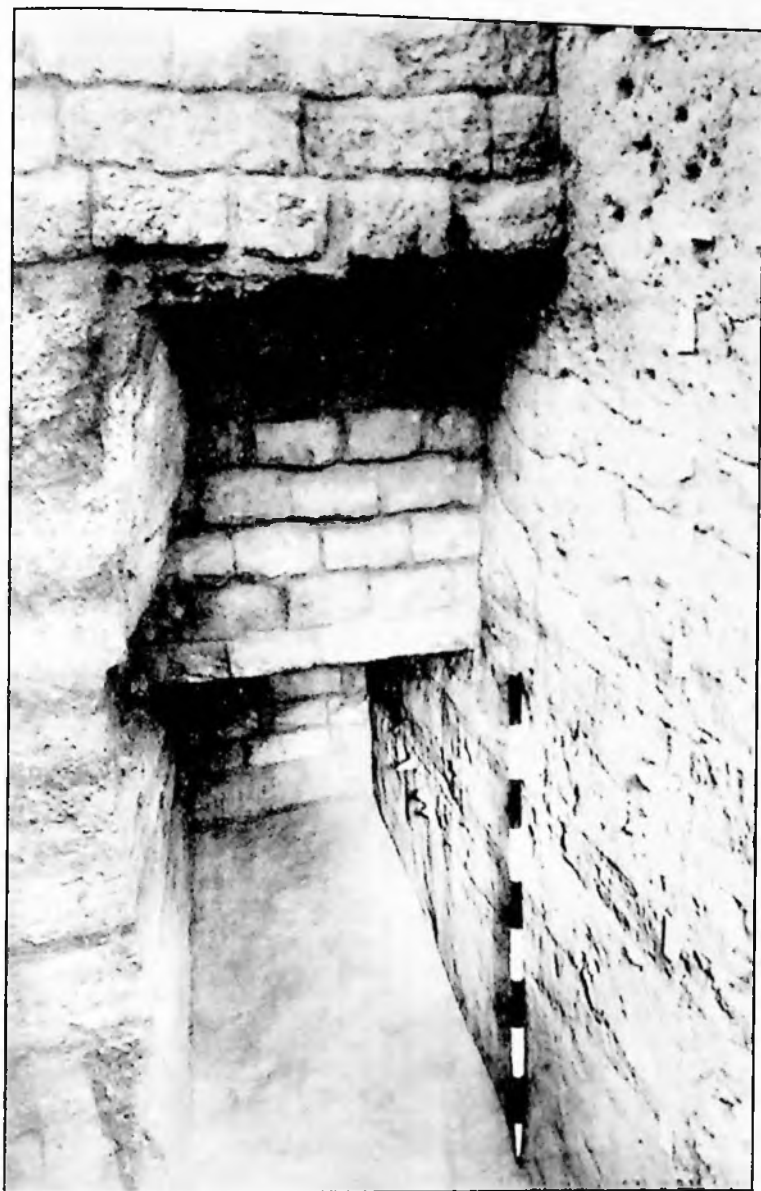


Fig. 6.14. Kalibangan: In a small section on the northern side are seen two successive inner faces of the peripheral wall of Stage III, overlain by the peripheral wall of Stage IV.

adjacent walls suggested that there was a rectangular/square room. At another level there was a circular structure with a diameter of 1.90 m and an opening of 90 cm. It is difficult to be



sure of the use of this structure. While the diameter was too short for a house, the opening was rather wide for a storage bin.

Since the area excavated in RGR-6 was very small, it is difficult to say if there ever came up a peripheral wall around the settlement. In other words, it is uncertain whether the concept of a fortification had emerged, as noted elsewhere (e.g. at Kalibangan), constituting our Stage III.

Remains of Stage II were also met with in RGR-1. Here too a circular structure with a diameter of 1.9 m, as in RGR-6, was met with. In this case, however, the opening was only 80 cm and in front of it there was a pavement of broken fragments of kiln-fired bricks. If the circular structure was used for storage of grains (though no remains of any cereal had been found), the pavement in front of it may have been used for thrashing the same. Not far off, there was a small structure containing ash, charcoal and pottery. Maybe, it was a pottery-kiln.

In the southern part of RGR-1, remains of two rectangular houses were found, with a lane in between them. Through this lane there also flowed a drain, made of kiln-fired bricks, testifying to the use of such bricks in Stage II. However, the walls of the houses were mainly of mud bricks, though occasionally kiln-fired bricks were also used.

In the ceramic complex there were small quantities of pots with a coating of mud and coarse particles on the exterior, reminding one of the 'Mud-Applique Ware'. Also there was the 'Incised Ware', of which thick basins with deeply incised designs on the interior were conspicuous by their presence. Then there were some specimens of grey and black-burnished wares. And finally there also occurred the bichrome ware, characterized by designs which had a black outline and white infilling.

Amongst the small finds of Stage II at Rakhigarhi mention may be made of: arrow-heads, needles and bangles of copper; beads of steatite, faience, and semi-precious stones; terracotta animal figurines, cart models and bangles. Attention may also be drawn to the presence of a fluted core of chert since this material is not found locally and becomes conspicuous by its much greater frequency in Stage IV (Mature Harappan).



Located in Mansa District of Panjab, Dhalewan (30° 1' 20"N; 75° 35' 45"E) is yet another site which began with our Stage II and continued up to Stage IV. Thereafter there was break of occupation but the site was re-occupied during the Kushan times and went on up to the Gupta period, according to the findings of the excavator, Ms Madhu Bala (Report in press).

The excavator's Sub-Periods 1A, 1B and 1C (Mature Harappan) are respectively equivalent to our Stages II, III and IV. The cultural milieu of Stage II at Dhalewan is more or less the same as at other sites discussed earlier. We have a C-14 date, namely 3764 ± 116 BCE for this stage, which places it in early 4th millennium BCE. There are also two C-14 dates, viz. 3167 ± 137 BCE and 3147 ± 151 BCE, for the excavator's Sub-Period 1C (Mature Harappan), i.e. our Stage IV. It may be noted these are earlier than those for Stage IV (Mature Harappan) of Kalibangan (p. 116).

4. STAGE III: THE CONCEPT OF A PERIPHERAL WALL AROUND THE SETTLEMENT COMES INTO BEING

What exactly was the reason for the construction of a peripheral wall around the settlement is difficult to determine in the present state of our knowledge. If it is argued that the wall was erected to safeguard the inhabitants from the attack of an enemy, the absence of evidence of such an attack at any of the sites militates against such a hypothesis. Again, if it is argued that the chief of the settlement wanted to live in a fortified area in contrast to the 'commoners', the same also does not seem to hold good, since, as would shortly be seen from the evidence of a site exclusively belonging to our Stage III, namely Kalibangan (KLB-I, Lower levels), it was the entire settlement and not a part thereof segregating the 'chief' from the rest of the inhabitants, that was fortified. It would be further observed that in Stage IV when there were two parts of the settlement, which have been named as a 'Citadel' and a 'Lower Town', it was not the former alone that was fortified but the latter as well. Maybe future discoveries would be able to answer this question satisfactorily.

At the sites of Bhirrana and Dhalewan (already referred to earlier) and at Banawali (to be dealt with a little later), there is



evidence of a transition from Stage II to Stage III, that is to say that during the course of an ongoing occupation at these sites a peripheral wall was put up around the settlement. It needs, however, to be added that the laying out of the wall around the settlement did not correspond to any noteworthy change in the material culture. At Kalibangan (below) the occupation commenced along with the peripheral wall. There was no occupation prior to it.

A. KALIBANGAN

Kalibangan (29° 29' N; 74° 8' E) is located on the left bank of the Ghaggar (ancient Sarasvati) in Hanumangarh District of Rajasthan. It is about 6 km south of Pilibangan, a railway station between Hanumangarh and Suratgarh. The river is now dry, but its bed stretches from Kalibangan in the south to very near Pilibangan in the north, showing that in ancient times, when the site of Kalibangan was under occupation, it must have been a very mighty river. (How and when the river dried up is something we shall discuss in a later chapter.)

The excavations at Kalibangan were started by me in the field season of 1960-61. Later, I was first joined by Shri B.K. Thapar and then by Shri J.P. Joshi, both of whom are unfortunately no more. A 320-page long report on the Early Harappan Settlement (our Stage III) has since been published (B.B. Lal, J.P. Joshi et al. 2003; the reasons such a delay in the publication of this report are mentioned in its Preface). Two volumes dealing with the Mature Harappans (our Stage IV) were submitted to the Survey for printing seven years ago, but unfortunately, have not been published so far.

The ancient settlement at Kalibangan consists of three mounds, which have been labelled as KLB-1, KLB-2 and KLB-3, from west to east (see Fig. 6.31). Together, these have a periphery of about 1.5-2 km. Of these, the middle one (KLB-2) is the largest and highest (about 10 m), while that on the east, the smallest. Further, while KLB-1 contains the remains of Stage III as well as Stage IV, KLB-2 primarily belongs to Stage IV. The easternmost mound is very small and does not contain any residential structures but only some ritualistic elements, ascribable to Stage IV.





Fig. 6.15. Kalibangan: A view of the southern peripheral wall of Stage III.

Because of the overlying massive remains of Stage IV in KLB-1, a comprehensive picture of Stage III could not be obtained. Nevertheless, what could be retrieved is worth taking note of. As already mentioned, the settlement at KLB-1 began simultaneously with the residential structures as well as the peripheral walls. The latter formed a rough parallelogram on the plan, oriented along the cardinal directions. Further, while the north-south arms measured about 250 meters, the east-west ones only about 170 meters (Fig. 6.13). These were constructed of mud bricks, of which the size was 10 x 20 x 30 cm. To begin with, the thickness of the walls was 1.9 m, but later on it was increased to 3-4 meters (Figs. 6.14 and 6.15). The exterior as well as the interior faces of these walls were plastered with mud, of which patches were duly met with at places.

Since the peripheral walls were not excavated completely, it is difficult to say how many gateways were there in all. However, in the north-west corner one was duly identified, of which the plan was also interesting. Here the western wall turned first eastwards for some length and then to the north-east. The northern wall turned south-westwards, leaving a gap of about 2 meters between it and the other wall just referred to. This gap,





Fig. 6.16. Kalibangan: General view of the structures of Stage III.

functioning as an entrance/exit, kept the residents in touch with the river, which flowed close by; and one may well imagine boats plying on the river and bringing in food supplies and other items.



Fig. 6.17. Kalibangan: Overground and underground cooking ovens, Stage III.





Fig. 6.18. Kalibangan: Lane with adjacent houses, Stage III.

Because of the overlying structures of Stage IV, not much could be exposed of the structures of Stage III. However, within a total deposit of 1.6 meters ascribable to this latter stage, as many as five structural sub-periods were noted (Fig. 6.16). Oriented along the cardinal directions, the houses were made of mud bricks set in mud mortar. The plan of an average house usually consisted of a central courtyard around which were set the living room, usually two to three in number. It is this kind of basic house-plan that continued to be followed in Stage IV as well. In one of the houses overground as well underground cooking ovens were found, which remind one of modern *tandūrs* (Fig. 6.17). These were circular on plan and cylindrical in depth. The sides were plastered with mud, which had turned red because of heating. The size of the bricks used in the construction of the houses was invariably 10 x 20 x 30 cm, i.e. in the ratio of 1:2:3. Mud plaster was often applied to the walls. At one place, kiln-fired bricks were found to have been used in a drain. In a part of the settlement, a lane measuring 1.5 m in width was found between two houses (Fig. 6.18).

The pottery of the Early Harappans at Kalibangan (our Stage III) was analysed by the late Shri Thapar, who divided it into



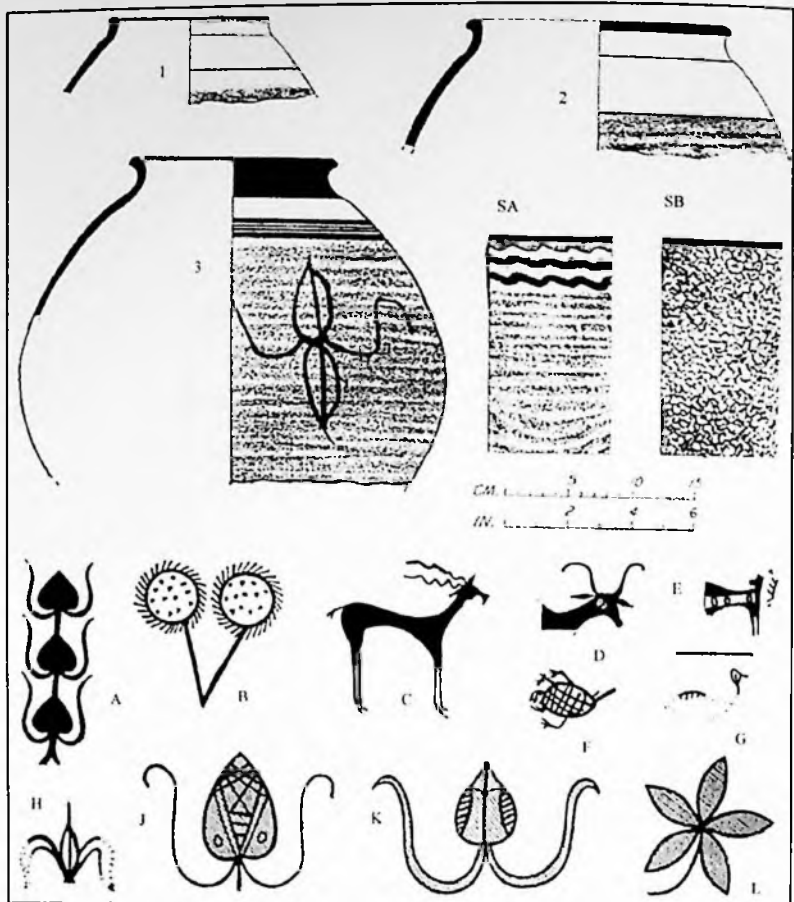


Fig. 6.19. Kalibangan: Mud Applique Ware, Stage III.

six categories, based on the fabric, technique of manufacture, surface treatment, etc. The same has been followed by Ms Madhu Bala, who has contributed the chapter on pottery to report on the Early Harappans, already referred to above, and interested readers may well go through the same. Here I propose emphasizing the place of the Stage III pottery at Kalibangan in the evolutionary process of the civilization in the Sarasvatī basin as a whole. This pottery, if I may say so, connects the past with the future. Thus, it carries on the residual features of Stages I and II on the one hand and introduces elements and shapes, which become the hallmark of Stage IV. For example, the globular vases with granular surface (Fig. 6.19) found in Stage III at Kalibangan are reminiscent of the Hakra Applique Ware.



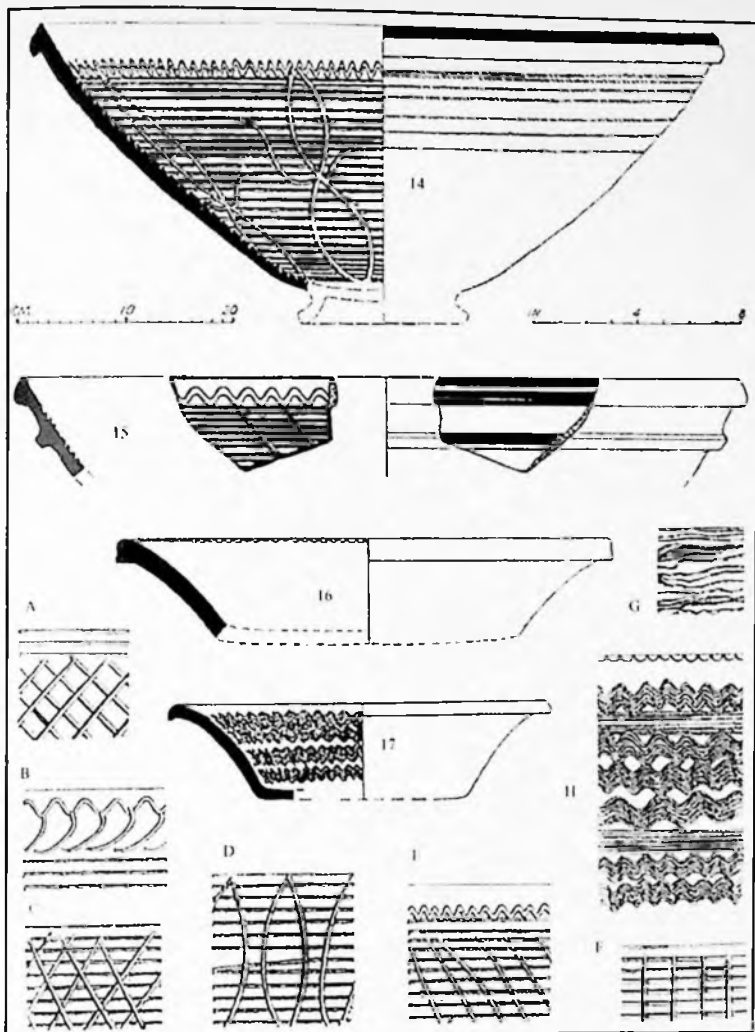


Fig. 6.20. Kalibangan: Incised Ware, Stage III.

Again, the incised pottery of Stage III (Fig. 6.20) carries on the technique of the Hakra Incised Ware. On the other hand, the fine-grained, well-fired, sturdy red ware, often bearing a red slip and black-painted designs, found in comparatively small quantity in Stage III, becomes the hallmark of Stage IV. Likewise, there are certain shapes in Stage III which find a prominent place in Stage IV. These include: dishes-on-stand and cups-on-stand, large jars with flanged rim and lids (Fig. 6.21) and tall cylindrical vases (Fig. 6.22). Though the tall jar illustrated here



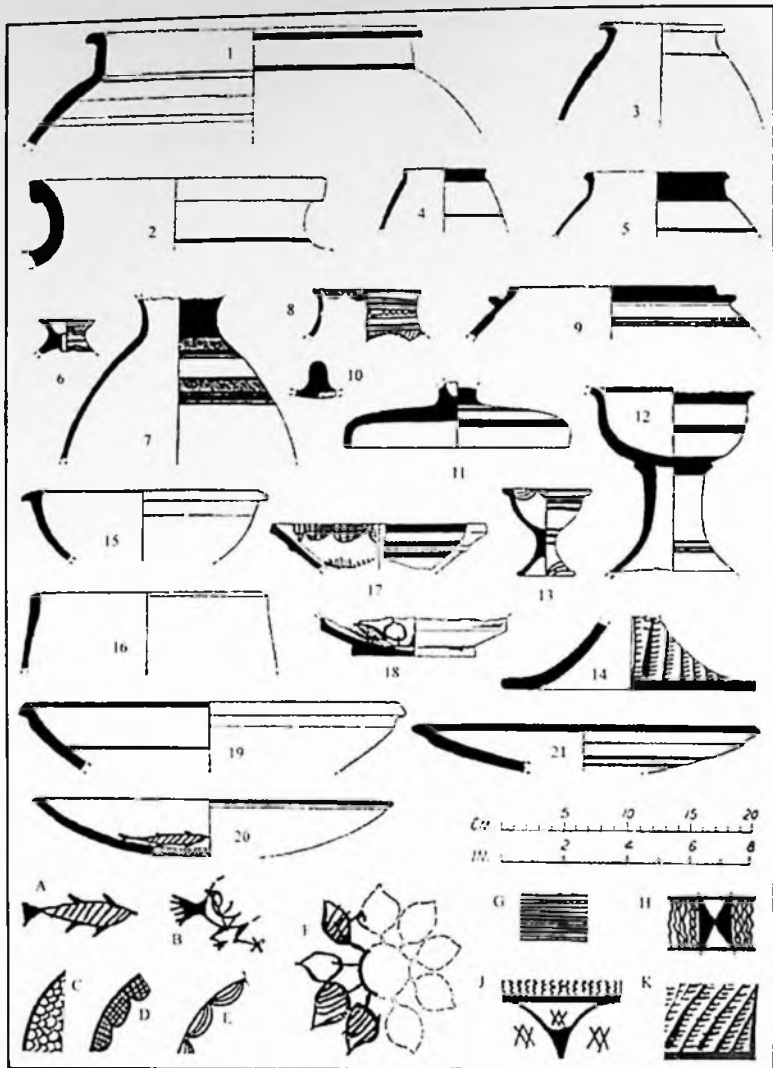


Fig. 6.21. Kalibangan: Some pottery types of Stage III.

does not have perforations as in the case of Stage IV examples, the shape is nevertheless identical. The freshness and vigour of the bichrome pottery (in which the outline of the designs is in black and the inner part is filled with white) seen in Stage II becomes less pronounced in Stage III, only to almost disappear in Stage IV.

A further noteworthy feature relating to the pottery of Stage III was the occurrence of graffiti on some of the specimens. For

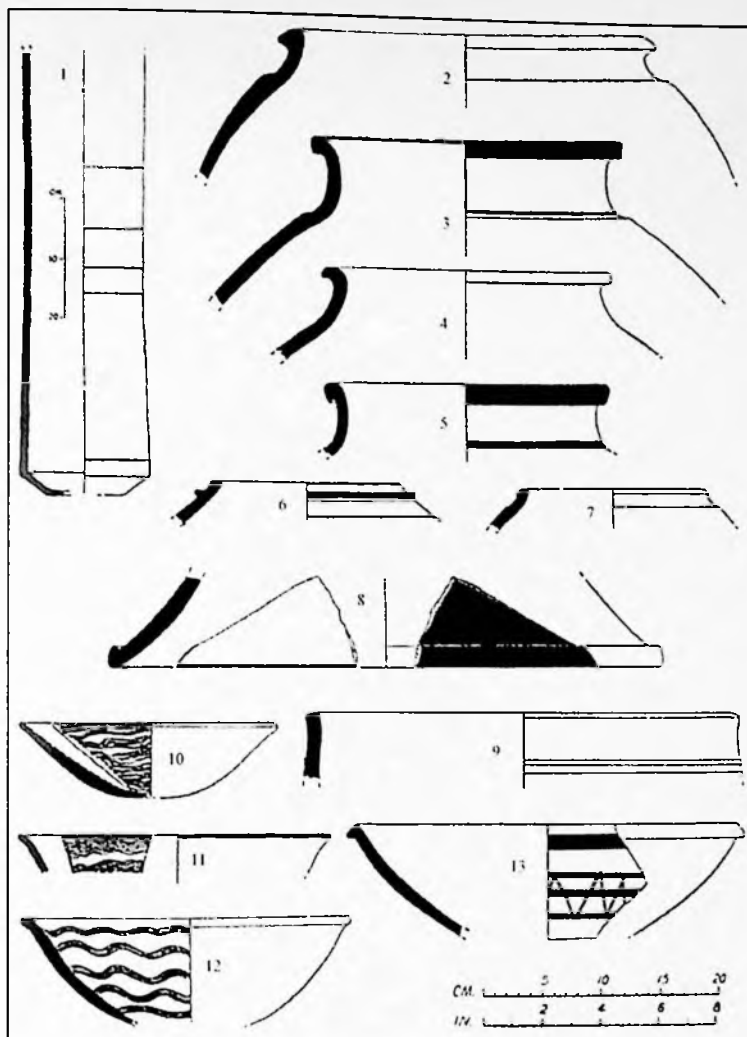


Fig. 6.22. Kalibangan: A tall cylindrical vase and other pottery of Stage III.

all one knows, some of these marks may have given rise to the signs of the script to be met with in Stage IV. (See in this context Lal, 1992.)

The story of the pottery is repeated in the lithic tools. In Stage III at Kalibangan we have, on the one hand, microliths made on agate, chalcedony and jasper, as noticed in the Hakra Ware complex (Stage I) in Cholistan, and, on the other, long, parallel-sided blades of chert – a feature characteristic of Stage IV.



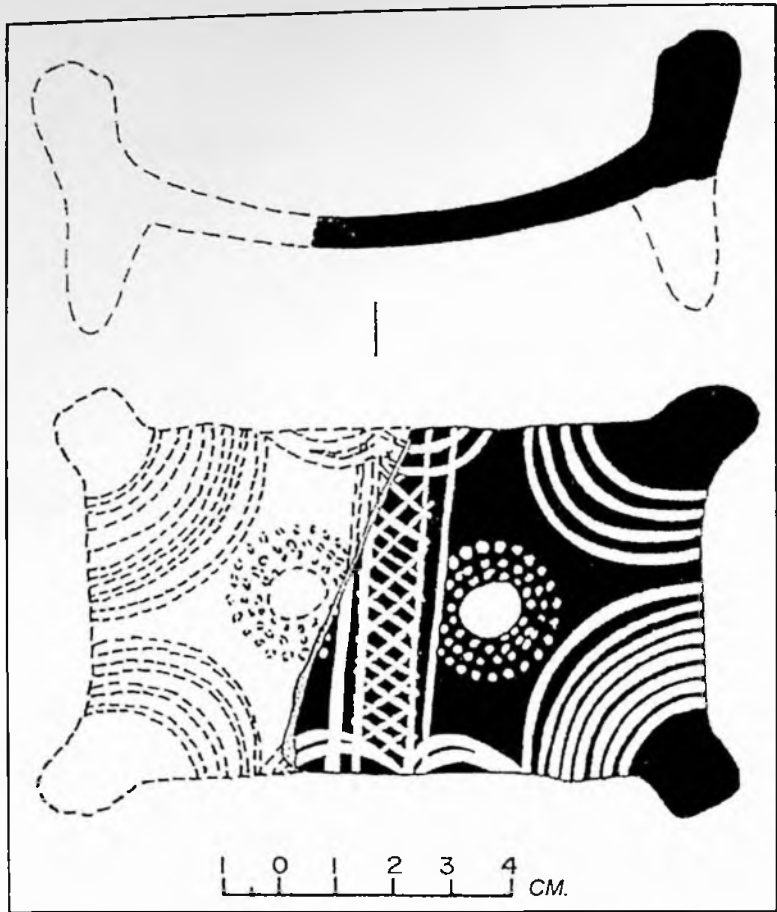


Fig. 6.23. Kalibangan: Terracotta model of a cot, with decorated bed-sheet, Stage III.

Of copper as many as fifty-six objects, some complete, others fragmentary, were found. These included inverted-V-shaped arrow-heads, antimony rods, a knife, a *parśu*-like object and a bangle. Gold objects, only four in number, included small-sized disc-shaped and barrel-shaped beads and yet another one, made of beaten sheet, circular in shape, with a diameter of about 6 cm and a hole running through it. This last-named reminds us of similar beads, in silver, from Stage II at Kunal, and similar ones, in gold, from Mature Harappan levels (our Stage IV) at Lothal.

The terracotta objects included the usual human and animal figurines, beads, balls, etc. But of special interest was a broken model of a cot with painted designs on the upper surface



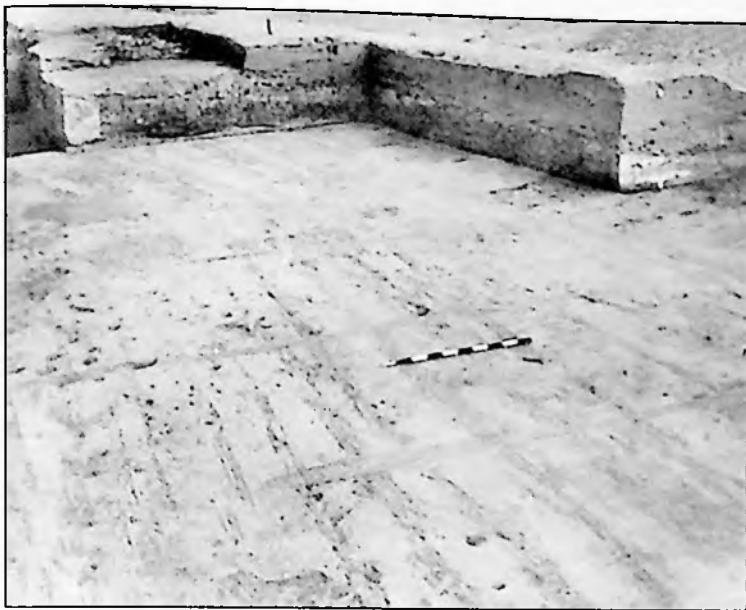


Fig. 6.24. Kalibangan: An agricultural field showing criss-cross pattern of furrows, Stage III.



Fig. 6.25. Kalibangan: Even today the villagers furrow their agricultural fields in a criss-cross pattern.

(Fig. 6.23). The painting recalls to mind printed bed-sheets used in parts of Haryana and Rajasthan even to this day.



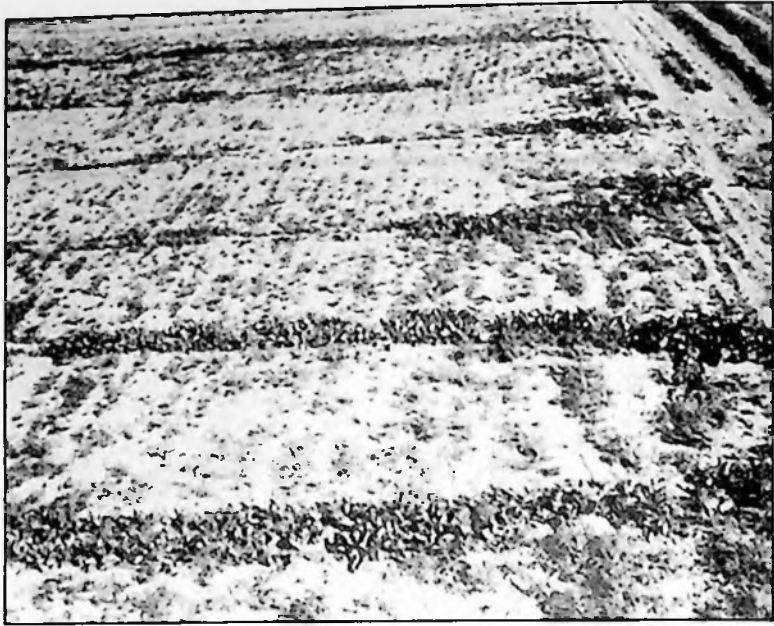


Fig. 6.26. Around Kalibangan village, today. A field with mustard plants in the widely distanced furrows and those of gram in the others.

Now to the most interesting discovery relating to Stage III at Kalibangan. It was a ploughed agricultural field – incidentally the earliest field ever discovered through an excavation anywhere in the world. The furrows of this field followed a criss-cross pattern, one set running north-south and the other east-west (Fig. 6.24). The intermediary space between the individual north-south furrows was 1.9 m, while that in the east-west ones was only 30 cm. What makes the whole thing further exciting is that this very kind of patterning of the furrows continues even to this day not only in northern Rajasthan where Kalibangan is located but also in Haryana and western Uttar Pradesh (Fig. 6.25). Today the farmers grow gram plants in the east-west furrows and those of mustard in the north-south ones (Fig. 6.26). The reason for growing these kinds of plants in the respective furrows is very scientific, as explained to us by the farmers themselves. Both gram and mustard are winter crops and during that season the sun moves down south, with the result that the shadows of trees and plants, falling northwards, are very long. Thus, if the mustard





Fig. 6.27. Kalibangan: Faulted strata, resulting from an earthquake which brought to an end the Stage III settlement.

plants, which are very tall, were to be sown in the east-west furrows and the grams in the north-south ones, the former would cast long shadows over the latter thereby hampering their growth. It is because of this consideration that the mustard





Fig. 6.28. Kalibangan: Faulted walls and layers of Stage III settlement, resulting from an earthquake.

plants are grown in north-south furrows so that their long shadows do not fall on the gram plants, allowing the latter to enjoy adequate sunlight. Since both mustard and gram are



known to have been cultivated by the authors of the civilization we are dealing with, it is most likely that these plants were sown in ancient times in the manner in which they are done now.

The Stage III settlement at Kalibangan came to a sudden end because of an earthquake, the signs left behind by which were seen at many places at the site. Thus, for example, Fig. 6.27, though not very sharp, shows the rupturing and sinking down of the strata. A close look at the uppermost black layer shows that it had ruptured at three places and sunk accordingly. Faint, oblique cleavage lines at the point of the rupturing may also be noticed. The same was the fate of many of the preceding layers, though, unfortunately, it has not come out very clearly in the photograph. Likewise, Fig. 6.28 shows the cleavage of two successive walls and of the underlying layers. It may, incidentally, be mentioned that this is the earliest evidence of an earthquake noted in an excavation anywhere in the world.

CHRONOLOGY

The chronological horizon of Stage III at Kalibangan may be gleaned from the following C-14 dates. In the Table, TF stands for Tata Institute of Fundamental Research, Mumbai, where the samples were sent for dating. BS stands for Birbal Sahni Institute for Palaeobotany, Lucknow, where two of the samples were re-checked.

Stratigraphic Level	Sample No.	Date based on 5730-yr half-life	Calib-3 Correction (1 Sigma & 2 Sigma)
Late	TF-957	2425 \pm 205 BP	1 Sig 782 BCE (398)185 2 Sig 900 BCE (398)70 CE
Late	TF-154	3770 \pm 115 BP	1 Sig 2192 BCE (1994) 1886 2 Sig 2395 BCE (1994) 1741
Late	TF-156 (BS)	4130 \pm 170 BP	1 Sig 2867 BCE (2543) 2287 2 Sig 2917 BCE (2543) 2034
Late	TF-156	3850 \pm 110 BP	1 Sig 2287 BCE (2137) 1974 2 Sig 2462 BCE (2137) 1768



Stratigraphic Level	Sample No.	Date based on 5730-yr half-life	Calib-3 Correction (1 Sigma & 2 Sigma)
Late	TF-165	3915 \pm 105 BP	1 Sig 2450 BCE (2200) 2041 2 Sig 2489 BCE (2200) 1934
Middle	TF-161	4050 \pm 105 BP	1 Sig 2563 BCE (2457) 2280 2 Sig 2853 BCE (2457) 2059
Early	TF-240	3720 \pm 115 BP	1 Sig 2132 BCE (1944) 1776 2 Sig 2281 BCE (1944) 1680
Early	TF-162	4060 \pm 105 BP	1 Sig 2568 BCE (2459) 2284 2 Sig 2857 BCE (2459) 2137
Early	TF-241	4215 \pm 95 BP	1 Sig 2869 BCE (2611) 2486 2 Sig 2888 BCE (2611) 2404
Early	TF-157	4245 \pm 120 BP	1 Sig 2880 BCE (2655) 2493 2 Sig 2918 BCE (2655) 2362
Early	TF-155	4320 \pm 120 BP	1 Sig 2911 BCE (2777) 2586 2 Sig 3072 BCE (2777) 2465
Early	TF-439 (BS)	6700 \pm 130 BP	1 Sig 5566 BCE (5436) 5289 2 Sig 5600 BCE (5436) 5224
Early	TF-439	Same as in the case of TF-439(BS)	

We may now analyse the above C-14 dates and see what these have to tell us about the time-period of the Stage III settlement at Kalibangan. The last two dates, viz. TF-439 and TF-439 (BS), provided by two different laboratories, wonderfully agree with each other. But these do not seem to be of much value in the present context. While the dates may be all right by themselves, these are at best the dates for the charcoal sample, which may have been derived from a very old wood. These samples cannot be used to date the stratum in which these were found. The date provided by these samples, viz. mid-6th millennium BCE would be far too early, considering the 5th (6th?)–millennium BCE date for Stage I at Bhirrana. Much water had flowed down the Sarasvatī since then. Likewise, the date provided by Sample TF-957, which goes into Early Historical times, has simply to be written off. The consensus of the other dates would place Stage III at Kalibangan from some time in the



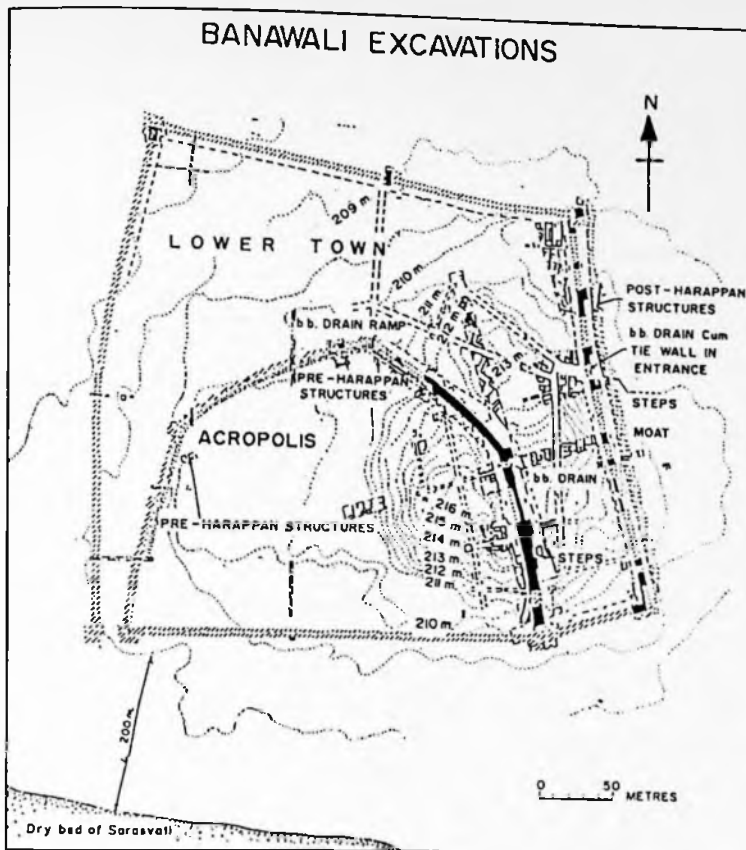


Fig. 6.29. Banawali Excavations (after R.S. Bisht).

last quarter of the 4th millennium BCE to circa 2700 BCE. As a reminder, it may be emphasized that C-14 dates give us only an approximate horizon and not absolute calendar dates.

B. BANAWALI

In the Sarasvatī valley itself, about 120 kilometers north-east of Kalibangan as the crow flies, lies the site of Banawali, in District Hissar, Haryana. Situated on the right bank of the river, the ancient mound covers an area of about 400 x 400 meters and rises to a height of about 10 meters above the surrounding ground level (Fig. 6.29).

Over here, barring Stage I, all the other three stages in the cultural development in Sarasvatī valley are present. The site begins straightaway with houses and streets laid out along the



cardinal directions, there being no pit-dwellings. The deposits preceding Stage IV accounted for a height of about 3 meters. The excavator, R.S. Bisht (1982 and 1987), has divided these deposits into Sub-periods 1A, 1B and 1C, from the bottom upwards.

In Sub-period 1A, which is equivalent to our Stage II, two structural phases were met with, accounting for a total deposit of about 70 cm. However, Sub-period 1B (=our Stage III) brought about a significant change, namely the ongoing settlement was enclosed by a peripheral wall. At one point, the wall was available to a height of 2 meters. It was tapering in nature. Thus, while the width at the base was found to be 3.6 meters, the extant top was only 3.2 meters wide.

Though, the sizes of the bricks varied, namely 13 x 26 x 39 cm, 12 x 24 x 36 cm and 10 x 20 x 30 cm, these were nonetheless in a set ratio of 1:2:3, as in Stage III at Kalibangan. But, while the Kalibangan people used kiln-fired bricks sparingly, namely only in the drains, those in Banawali used such bricks more frequently. The pottery was similar to that at Kalibangan. However, amongst the painted motifs the excavator draws particular attention to a stylized animal with horns (Bisht 1987: 143, Fig. 3) and 'a canopied cart with spoked wheels (Bisht 1982:116). Since only a limited area of these early levels was excavated, not much was found by way of antiquities. Nonetheless, these included: a fish-hook and an arrow-head of copper; beads of carnelian, agate, lapis lazuli and steatite; bangles of shell, faience and clay; and two spatulae and a handle of bone. However, the excavator (Bisht 1982: 116) draws particular attention to 'a stone weight, perhaps the first of its kind. Its weight is 87.855 grams. Although it does not fit into the binary system of Indus weights, it closely approximates a sum a hundred times the supposed unit weight of 0.657 grams (Marshall 1931: 590-91; Mackay 1938: 602, 606, Table III).'

Sub-period 1C of the excavator heralds, as it were, a transition from our Stage III to Stage IV. It is marked by 'drastic and diagnostic changes in architecture, planning and antiquities in an otherwise continuing milieu of the preceding Sub-period. The entire settlement was planned and constructed *de novo*. The dichotomous layout which the Harappans adopted was



introduced during this sub-period. The fortification of the previous [sub-] period was externally chiselled or partially sliced away and doubled in width for housing the citadel, and the Lower Town was contiguously laid out towards the east as well as the north, while the position in the west remained unresolved.' (*Indian Archaeology – A Review*, 1986-87: 33.) Also noteworthy are certain other facts. While the earlier pottery characteristic of Sub-period 1B (our Stage III) kept on, a new ware with deep red slip and having certain forms of our Stage IV (Mature Harappan) also made its appearance. Likewise, bricks in the ratio of 1:2:4, so typical of Stage IV, also began to be manufactured. Equally noteworthy was the presence of terracotta cakes and chert blades. All this fully heralded the beginnings of Stage IV, though it must also be emphasized that the typical seals and sealings, weights and measures and a writing system were still lacking. These items are clearly the outcome of a highly complex network of internal as well as external trade and ensuing affluence – the hallmark of Stage IV. To it we come next.

5. STAGE IV: FINALLY, THE 'CITADEL' AND THE 'LOWER TOWN': FULL-FLEDGED URBANIZATION

The most distinctive feature of Stage IV, in terms of town-planning, was the coming into being of two clear-cut segments of the settlement, which have been called the 'Citadel' and the 'Lower Town'. Also to be noted was the emergence of a system of writing, of weights and measures and of seals and sealings. All these appear to have emerged along with the development of trade, both internal as well as external. The net result was a high level of affluence, as reflected by specialized buildings and a rich harvest of antiquities. We shall continue with the site of Banawali where we saw, a while ago, the emergence of the two parts of the settlement.

A. BANAWALI

In the context of Banawali, it may be noted that while the concept of two parts of the settlement had emerged, namely a 'Citadel' / 'Acropolis' and a 'Lower Town', the two parts were not separately located, as we shall see shortly in the case of





Fig. 6.30. Banawali: Section across the moat, Stage IV.

Kalibangan. These were contiguous to each other, there being a common peripheral wall for them on the southern side (Fig. 6.29). The total area covered by these contiguous parts was approximately 400 x 400 meters. With the southern wall as the common base, the 'Citadel'/'Acropolis' formed a sort of semi-ellipse and occupied nearly half of the entire area. The peripheral wall enclosing the Citadel varied in thickness from 5.4 meters to 7 meters. On the northern side, there was a ramp, paved with kiln-fired bricks, which connected the Citadel with the Lower Town. On the eastern side, there were two bastions, near one of which there was a narrow exit. Within the Citadel, the streets ran north-south and east-west, forming a grid on the plan. It may, incidentally, be mentioned that, though the area excavated was limited, no platforms were identified within the Citadel, as was the case with Kalibangan (see p. 100).

The streets within the Lower Town, however, did not follow the typical grid pattern. Instead, starting from a piazza which was located in front of an entrance through the eastern side of



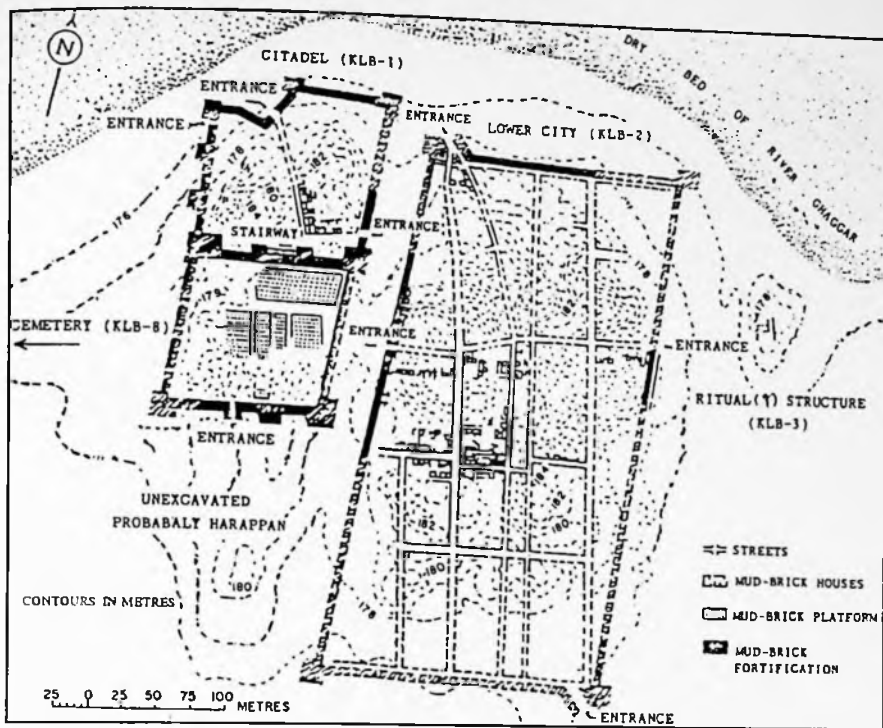


Fig. 6.31. Kalibangan: Site-plan of Stage IV.

the peripheral wall, a series of streets radiated in southern, western and north-western directions. Emerging from the eastern side of this piazza there was also a street which ran along the western face of this peripheral wall, reaching, on the one hand, the north-eastern corner and, on the other, the south-eastern end. The eastern peripheral wall was provided, on the exterior, with a series of square bastions. A very important feature, noted on the exterior of the peripheral wall, was that of a moat (Fig. 6.30). There was evidently no problem about feeding this moat with running water, since not far from the southern side of the settlement there was the river Sarasvatī, whose dry bed can still be seen (Fig. 6.29). That provision of moats around fortifications was a normal practice in ancient times may be seen from the excavated site of Śiśupālgarh, ascribable to fifth-sixth century BCE (Lal 1949).

The houses were made of mud bricks, and had the usual pattern of having a courtyard on the sides of which were located the living rooms. Sometimes the rooms were also paved with





Fig. 6.32. Kalibangan: The widest street in the Lower Town, Stage IV.

mud bricks. In one of the houses, the toilet 'was provided with a wash-basin placed on a high place in a corner near the drain which carried off the waste water into a sullage jar placed outside on the street (Bisht 1982: 117). The provision of alcove in the thickness of the walls was another noteworthy feature. Also to be noted was the presence of an apsidal structure which was associated with fire-altars – a feature about which we shall discuss in detail when we deal with the remains at Kalibangan (below, pp. 98, 100).

Banawali yielded a fairly rich harvest of antiquities. In one of the houses were found beads made of gold, carnelian, lapis lazuli, etc., besides tiny weights, which may have been used for weighing these precious objects. No less interesting was the discovery of a 'touchstone bearing gold streaks of different hues'. In this context, it needs to be stated that the use of touchstone for testing the purity of gold is prevalent even to this day in India.



The reader has already been introduced to the location, etc. of this site (above, p. 72) when we were dealing with Stage III of the cultural evolution in the Sarasvatī basin. This is by far the most extensively excavated site in the valley. As already mentioned, located on the left bank of the Sarasvatī, it consists of three mounds lying within an overall perimeter of about 1.5-2 kilometers. Beginning from the west, the mounds are KLB-1, KLB-2 and KLB-3, the first two of which have respectively been named the 'Citadel' and the 'Lower Town' (Fig. 6.31).

It may be recalled that the Stage III settlement at Kalibangan had to be abandoned because of an earthquake, around 2,700 BCE (above, p. 85). Where exactly these people had moved to it is difficult to say. But they did return to the site after a gap of about a century, around 2,600 BCE (cf. the Chronology of Stage IV, pp. 115-17). During this crucial interval, however, they had developed a new concept about the layout of the settlement. There were now two clear-cut parts, both conceptually and physically. Taking advantage of the height provided by the earlier mound of Stage III, the returnees sited their 'Citadel' on it. In it there lived perhaps the elites or 'rulers' (?) – by whatever designation they may have then gone. On the other hand, those who occupied the 'Lower Town', which actually did come up on a lower ground, namely the natural soil, some 40 meters to the east of the 'Citadel', appear to have been the less privileged ones in the emerging socio-political set-up. The die had been cast in favour of a hierarchical society, which may ultimately have led to the latter-day Indian caste-system, as we shall discuss a little later.

(i) The Lower Town

Like the 'Citadel', to a description of which we shall come a little later, the 'Lower Town', though conceptually relegated to a 'lower' status, was also surrounded by peripheral or fortification walls. These formed a parallelogram on plan, since while the eastern and western walls had been laid out along north-south, the northern wall was not. The wall on the southern side had been eroded, but it may be assumed to have run parallel to the northern one. The width of the Lower Town was found





Fig. 6.33. Kalibangan: Another street in the Lower Town, Stage IV.

to have been 240 meters. Its length has to be conjectured, since, as already mentioned, the peripheral wall on the southern side had been eroded. However, on the basis of the extant habitation-remains on this side, it may well be that the north-south extent of the Lower Town was around 360 meters. The peripheral walls were made of mud bricks, which measured 10 x 20 x 40 cm in the earlier stages, but were later replaced by those measuring 7.5 x 15 x 30 cm. In both cases, however, these were in the ratio of 1:2:4. It may be added that in Stage IV this had become the standard size, and bricks in the ratio of 1:2:3 had become a story of the past. As seen from the front, the profile of the bricks was in alternate courses of headers and stretchers – something which has continued ever since. Kiln-fired bricks were used only sparingly.

Two exits were identified piercing the peripheral walls. One of these lay in the north-west corner, opening on the river-side; and the other on the western side providing an approach to the Citadel on the west. It is likely that there were similar exits on



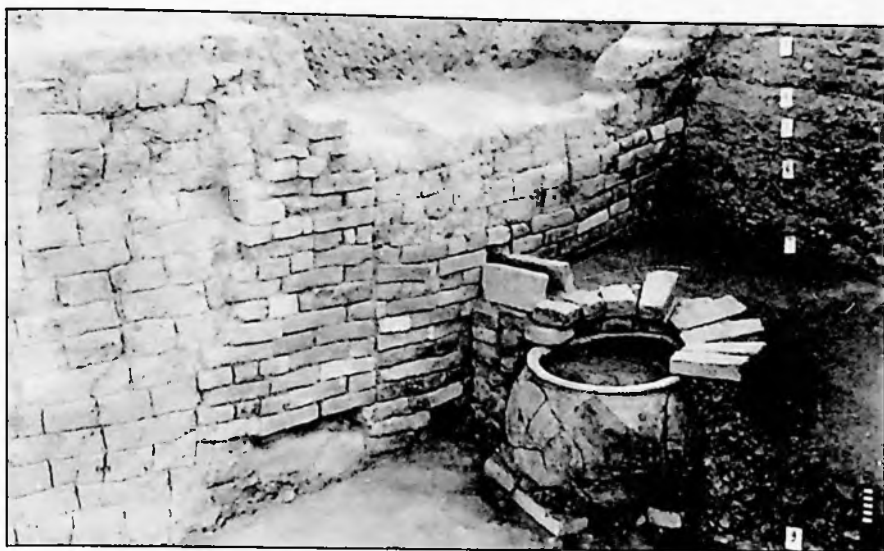


Fig. 6.34. Kalibangan: A drain discharging into a soakage jar embedded in the street outside the house, Stage IV.

the eastern and southern sides, but these were not identified. Inside the Lower Town, four major streets, running all the way from north to south, were identified, while some others may have run only half way through (Fig. 6.31). The east-west streets, however, did not run right across, but were staggered. A noteworthy point about the lanes and streets was their width. While the lane was only 1.8 meters in width, the streets measured successively 3.6, 5.4 and 7.2 meters, i.e. in a set ratio of 1:2:3:4 (see Figs. 6.32 and 6.33). It would be observed from these photographs, particularly the latter, that even though there were as many as nine reconstructions of the walls, one after the other, there never was any encroachment on the street. The only features noted were small platforms adjacent to the entrances, which were doubtless a part of the original plan. It may well be added here that such platforms (*chabūtarās*) are a part of house construction in the neighbouring village even today. These are used by the people for sitting and chit-chatting. At the crossings of the streets, wooden fender posts were affixed to the corner of the houses so that the same may be prevented from being damaged by the passing vehicular traffic. Although there were no street drains at Kalibangan, like



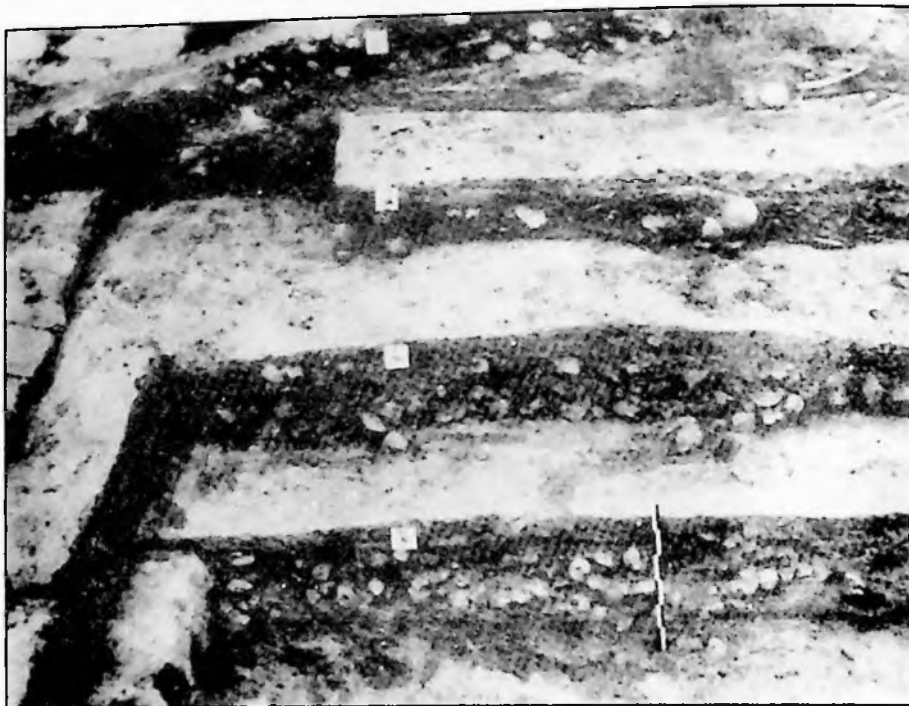


Fig. 6.35. Kalibangan: Successive floors of clay with soling of terracotta nodules and charcoal, Stage IV.

those at Mohenjo-daro, care was taken to ensure that the sullage from inside the houses duly discharged, through a house drain, into a large pot immediately on the exterior (Fig. 6.34). And, for all one can guess, arrangement must have been made by the civic authorities to have the jars cleared up from time to time.

The plan of an average house usually consisted of a courtyard around which were set the living rooms, except for the side through which there was an entrance from the neighbouring street. These entrances were large enough to permit the entry of a bullock cart, which was parked in the courtyard. In the courtyard there was an elongated plinth of mud or mud bricks on the top of which were placed the lower parts of large-sized jars, which were filled with water for the animals to drink – a pattern continuing even to this day. In one of the houses there was a well, lined with wedge-shaped, kiln-fired bricks. Cooking was usually done in a corner of the courtyard, for which U-





Fig. 6.36. Kalibangan: Floor of kiln-fired tiles bearing a design of intersecting circles, Stage IV.

shaped *chūllhās*, like the ones used even today, were provided. The rooms were sometimes paved with mud bricks. In one of the houses we noted a very interesting technique of making the floor damp-proof. First a soling was given of highly fired, broken terracotta nodules, interspersed with charcoal. Over it was laid out a clay cover. This process was repeated as and when necessary (Fig. 6.35). In the context of floors, however,



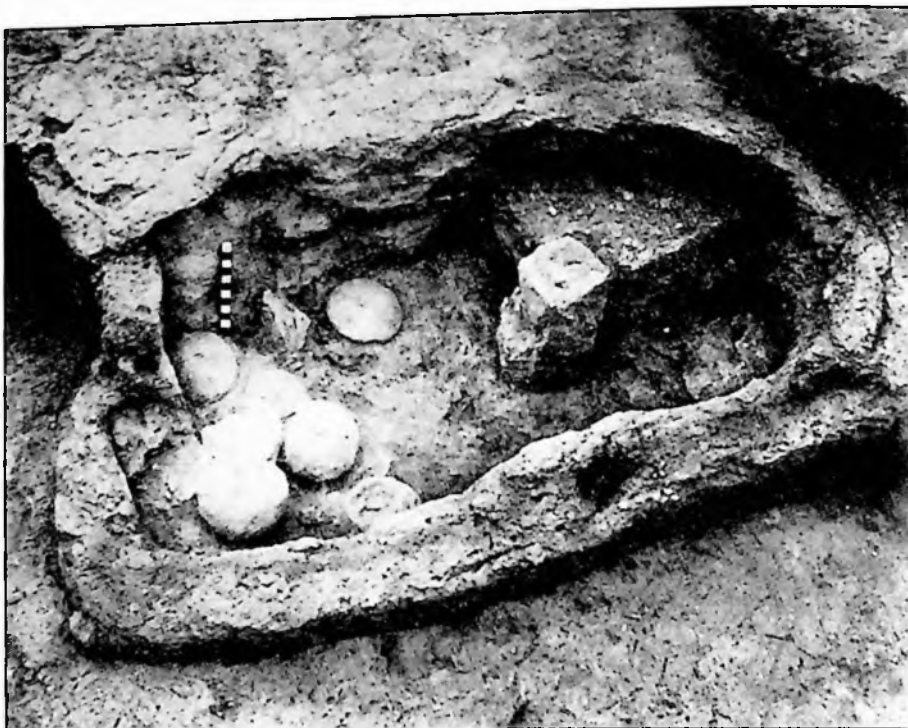


Fig. 6.37. Kalibangan: A 'fire-altar' in a house in the Lower Town, Stage IV.

attention may also be drawn to one made of kiln-fired bricks with intersecting circles (Fig. 6.36).

It appears that one of the rooms in the house was kept reserved for a kind of ritual associated with fire. On the floor there was a pit, roughly rectangular on plan, measuring about a meter in length, half-a-meter in width and 25 cm in depth (Fig. 6.37). The corners were somewhat rounded and the sides plastered with mud. In the centre there stood up a stele of clay, often fired, measuring about 30-40 cm in height. Usually it was cylindrical, but sometimes could be faceted. Its diameter was about 10-15 cm. Within the pit there lay about half-a-dozen circular biconvex objects of clay with a finger-depression in the centre. These have usually been called 'cakes'. The pit was full of ash and charcoal; and its floor and sides had turned red because of contact with fire. In the absence of a better name, these features have been called 'fire-altars'. However, it must straightaway be stated that these have nothing to do with the fire-altars of the Parsis.





Fig. 6.38. Kalibangan: A view of the entrance in the southern side of the Citadel, Stage IV.

(ii) *The Citadel*

We may now turn our attention to the 'Citadel' complex. As already mentioned, it was built on the ruins of the mound of Stage III, which gave it a height to oversee the 'Lower Town': at least physically, if not administratively. The builders of the peripheral walls of Stage IV utilized the extant peripheral walls of Stage III on the western and northern sides. On the southern side, some minor adjustments were made, but on the eastern side the wall was laid out further to the east, so as to cover a much wider area. As finished, the Citadel complex measured 240 meters from north to south and 120 meters from west to east, giving it length-width ratio of 2:1. The peripheral walls were reinforced by square bastions at the corners and elsewhere too. There was an exit in the north-west corner of the northern part, leading to the river-front. In its eastern part too there was another exit, providing access to the Lower Town whose western peripheral wall also had an entry (cf. Fig. 6.31).





Fig. 6.39. Kalibangan: A row of seven 'fire-altars' in the southern half of the Citadel, Stage IV.

The Citadel complex was divided by a thick medial wall into two equal parts, one northern and the other southern, and it may at once be added that the two parts were functionally different. While the northern part had residential houses, there were no houses at all in the southern part. Instead, there were large-sized platforms, which were separated from one another as well as from the peripheral walls by means of intermediary passages. Ravages of time and by men have told heavily on these platforms, but at least in two cases it was possible to determine their use, which was ritualistic. It may, incidentally, be added here that the main entrance to the southern half, which was from the south, was in a stepped fashion, thereby forbidding any entry of vehicles (Fig. 6.38). This seems to have been the right thing to do, since in a religious complex pedestrians should be able to move about freely unbothered by vehicular traffic. There was another noteworthy feature: Adjacent to this entrance there were blind holes in the ledge of the fortification wall.



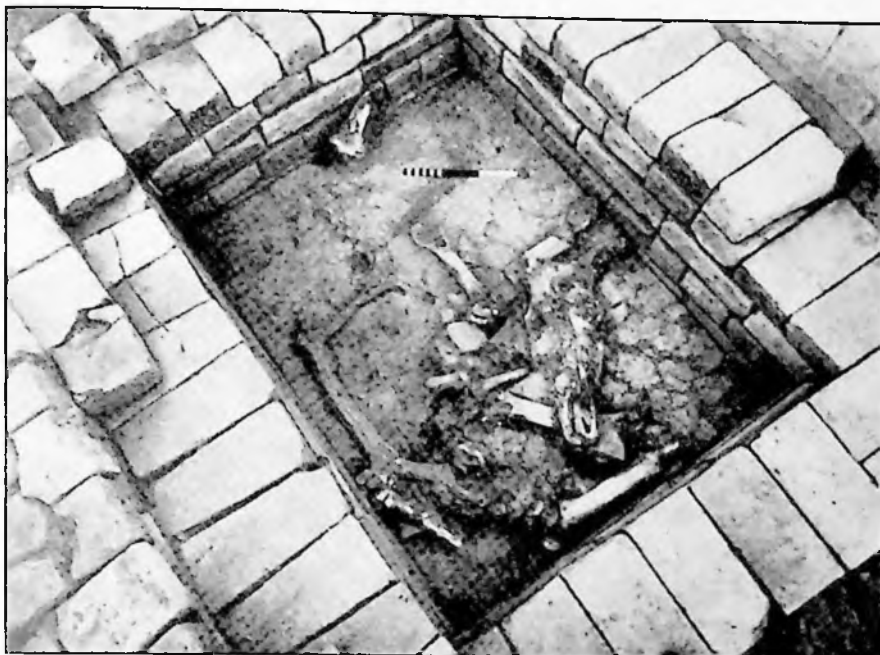


Fig. 6.40. Kalibangan: Brick-lined sacrificial pit with bones, Stage IV.

These were just wide enough to hold wooden posts and it may not be too much to imagine that on these posts were mounted flags on certain special occasions.

On one of the platforms there were contiguous 'fire-altars', running from north to south (Fig. 6.39). Although a subsequent drain had destroyed some of the altars, it would appear that originally these were seven in number – whatever be the significance of that number. (It may, incidentally, be recalled that a seal from Mohenjo-daro shows seven devotees marching in a row, in the lower register, the upper one depicting a deity within a peepal-leaf enclosure.) Although because of subsequent disturbances, the contents of these altars had been depleted, one could nevertheless find in some of them the remains of stele, 'cakes' and charcoal, signifying that these served the same purpose as did the 'fire-altars' in the Lower Town, discussed earlier (p. 98). On the west of these altars there lay the lower half of a jar in a pit, containing ash and charcoal. It would appear that in it fire was kept ready to be used in the altars. Another interesting feature was that of a north-south wall running behind





Fig. 6.41. Obverse and reverse of a terracotta 'cake'. On one side is shown a horned deity and on the other an animal pulled by a man with a rope, Stage IV.

the row of the fire-altars. This would show that the person(s) using these altars had to face east while carrying out the ritual. Close by on the north-west of the fire-altars, there were a well and a bathing platform, further suggesting that a ceremonial bath prior to the performing of the ritual may have been a part of the ceremony.

On another platform in the southern part of the Citadel there was a pit lined with kiln-fired bricks (Fig. 6.40). It measured 1.5 x 1 m and contained bovine bones and antlers, indicative of animal sacrifice. How the animal was carried to the sacrificial altar is indicated by engravings found on a terracotta 'cake' at Kalibangan itself (Fig. 6.41). The cake is broken hence the complete picture is not available. Nevertheless, one may see on one side a figure which, from its typical head-gear, would appear to be a deity (recalling for

comparison the famous Śiva figure on a seal from Mohenjo-daro). On the other side there is an animal whose neck has been tied with a rope, which is held by a human being, perhaps in the process of carrying the animal to the sacrificial altar. That animal-sacrifice was practiced by the authors of this civilization is also confirmed by a seal found at Harappa (Kenoyer 1998, Fig. 6.24b). It shows a Śiva-like figure seated in a yogic posture, in front of whom a man pierces a buffalo with a harpoon-like spear, evidently offering the animal to the deity (Fig. 6.42).

Yonis and *liṅgas* made out of stone had been discovered long ago at Mohenjo-daro, but doubts were cast on their





Fig. 6.42. Harappa: A terracotta tablet, depicting the Śiva-like seated figure (right) and a person attempting to kill a buffalo, perhaps as a sacrifice, Stage IV.

identification. Kalibangan, however, has removed all such doubts by throwing up a composite specimen of *liṅga-cum-yoni* (Fig. Apx. IV.11). Though made of terracotta, the composite piece exactly resembles examples of *liṅga-cum-yoni* worshipped in Hindu temples even today (Fig. Apx. IV.12).

To come back to the Citadel complex. As mentioned earlier, the nature of the structures in the two halves of the Citadel was different. Thus, in contrast to the series of platforms of the southern half, the northern part had large residential houses. These were located on the two sides of a street, which ran in a north-westerly direction, leading to a gate fronting the river. It is surmised, though not proved, that in these houses there lived the elites and priests who supervised the rituals performed in the southern part of the Citadel. Between these houses and the medial partition wall, there was a long and wide passageway paved with mud bricks (Fig. 6.43). And, if imagination is allowed to have a free go, it may well be that priests and their entourage moved along this passageway in a procession and entered the southern half of the Citadel through a stepped entrance, which was already there.

(iii) Disposal of the Dead

We have not yet come across any evidence regarding the practice adopted by the people of Stages I, II and III for the disposal of





Fig. 6.43. Kalibangan: Partition wall of the Citadel with a tower (left) and a brick-on-edge pathway (front), Stage IV.

the bodies of their dead ones. But surely there must have been some method, maybe burial, as practiced by their successors. However, for Stage IV we have enough evidence from Kalibangan and other places like Rakhigarhi and Farmana.

The cemetery at Kalibangan lay some 200 meters to the west-southwest of the Citadel (cf. Fig. 6.31). In this area three different kinds of methods seem to have been associated with the disposal of the dead. These have been classified as Types I, II and III.

Of Type I, as many as twelve examples were exposed, which are basically similar to one another. However, here we illustrate and describe one grave (Grave 29), which was somewhat more elaborate than the others (Fig. 6.44). At the ground-level a pit was dug, about 4 meters in length, half of that in width and a little less than a meter in depth. Then its side-walls were lined with mud bricks, which were plastered with 2-cm thick clay. Within this dressed-up grave-pit, the dead body was placed extended on its back (supine), with the head on the north and



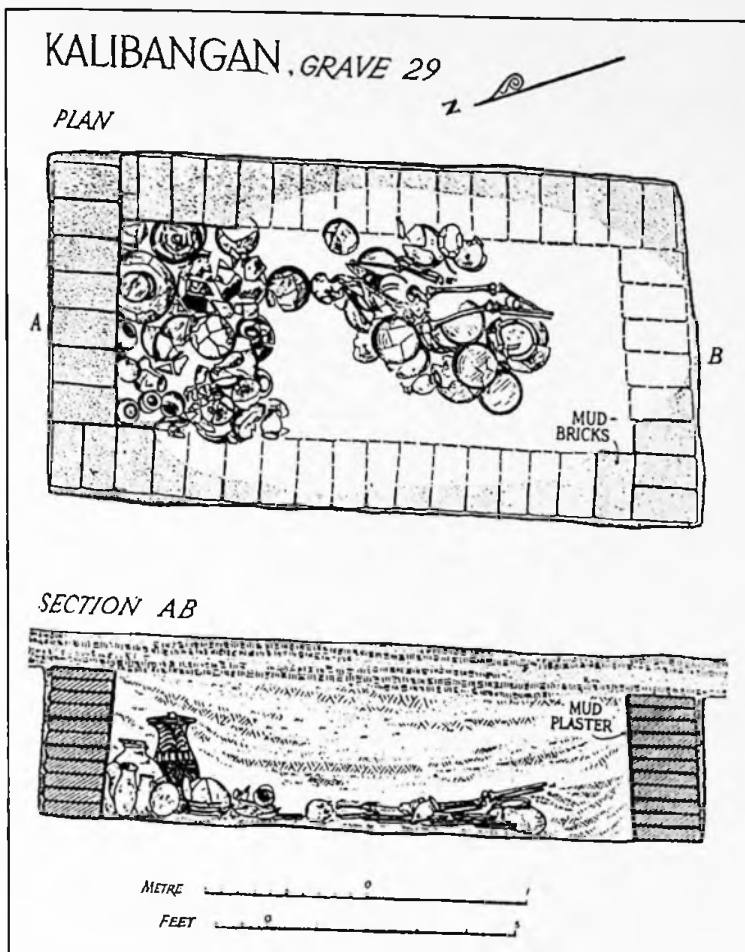


Fig. 6.44. Kalibangan: Grave 29, Stage IV.

facing westwards. To the north of the head were placed thirty-seven pots of all descriptions, including a large-sized S-shaped painted jar. Further, underneath the body there lay another group of thirty-five pots. It may be observed that the plastered side-walls and the large number of interred pots made this grave stand out from the others. In other words, the person buried in this particular grave perhaps enjoyed a somewhat higher status than did those buried in the other graves. At the same time, it cannot be said that he was a 'royal' personality. Kalibangan lacks the really royal graves encountered in contemporary West





Fig. 6.45. Kalibangan: Burial Type III, Stage IV.

Asian and Egyptian civilizations. At best, the person interred in Grave 29 may be said to have been 'the first among equals'.

Interspersed with graves of Type I were graves of Type II, of which six examples were excavated. However, these were completely devoid of skeletal remains, complete or even fractional. At the same time, the grave-pit was as large as in the graves of Type I, and was also oriented north-south. In fact, in one case it measured as much as 5 x 1.5 m on plan and 1.5 m in depth. Because of its unusual depth, even steps were provided in it. On the floor of the pit a large number of pots were found. In some other examples, besides pottery, shell bangles and beads were also found. Overlying these objects and pottery there were a series of bands of sand and clay, indicating that the grave-pit remained open for some time. It is difficult to be sure of the precise purpose served by the graves of Type II. But if a guess is at all to be hazarded, it may well be that the skeleton was first laid out in these graves and, after some ceremonies, removed to a grave of Type I.

Lying within the same general area of the cemetery, but a little to the north of graves of types I and II, there were a series



of round or ovoid pits (not rectangular as in the case of Type I), which have been assigned to Type III. The diameter or the longer axis of these pits measured from 2 m to 2.5 m, while the depth was about 40-60 cm. Of this type, as many as sixteen examples were exposed but in none of these were any skeletal remains found, except for a tiny unidentifiable piece in one case. At the same time, certain objects such as beads, copper rings and shell bangles were there. There also were good many pots amongst which a large globular jar was conspicuous by its size (Fig. 6.45). It was thought that this may have contained ashes, if this particular type represented 'post-cremation' burials. But no ashes could be clearly identified, unless these had got badly mixed up with the earth inside. In an alternative, were the graves of Type III symbolic, associated with someone who had died elsewhere and whose body could not be recovered? Indeed, one guess is as good or bad as any other.

The Kalibangan burials have also yielded some other interesting information. For example, in one burial a child was found with a swollen head. It was perhaps a case in which excessive accumulation of water in the brain cells caused the swelling. In the right temporal region of the skull three small holes were noticed, which may have been bored by the Kalibangan 'surgeon' to drain the excessive fluid out. Also noted was a black line joining two of the holes – in fact going a bit beyond them. This would indicate that the treatment included the insensitization of the nerves concerned by branding them with a fine instrument after heating it. Examples of trephination have also been found in a Neolithic context at Burzahom and in a Harappan context at Lothal.

Located in Rohtak District of Haryana, Farmana has yielded a large number of Harappan burials (Shinde et al. 2010). These have been classified by the excavators into three categories, viz. primary, symbolic and secondary. The first two categories are similar in nature to Types I and III of Kalibangan. However, the third category of Farmana differs from Type II of Kalibangan, since whereas the former did contain a few bones, the Kalibangan examples did not yield any.



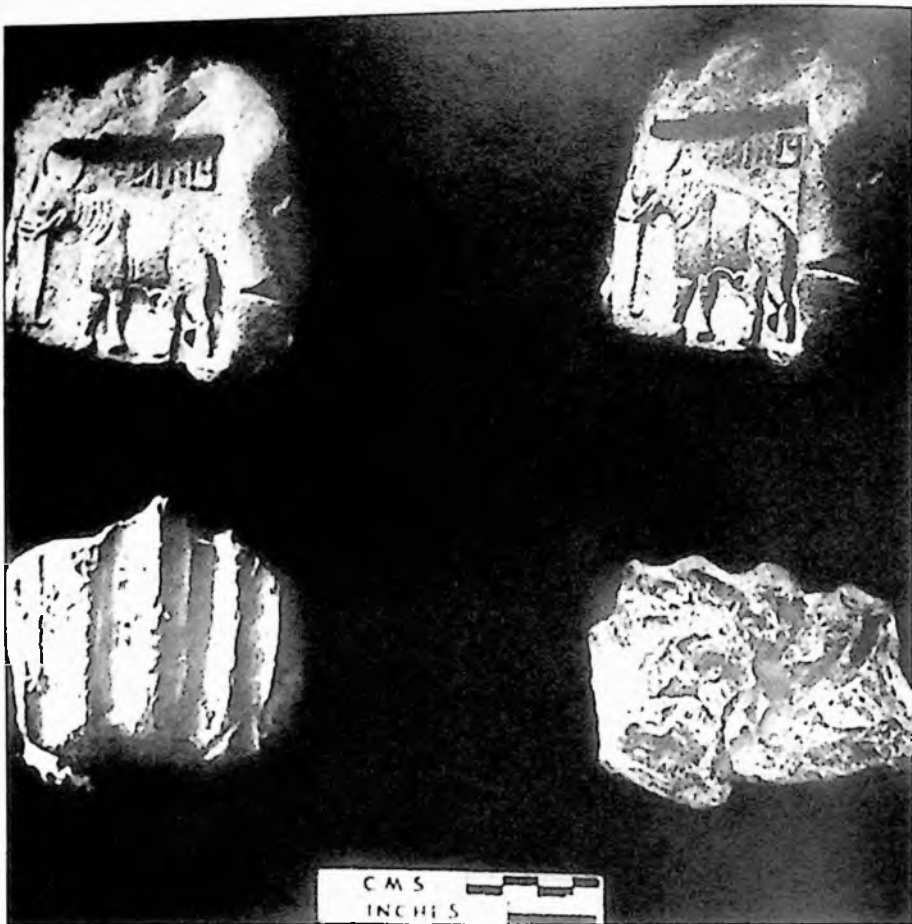


Fig. 6.46. Kalibangan: Four views of a clay sealing, bearing impressions of seals, reeds and knotted thread, Stage IV.

(iv) *The Economy*

The economic scenario that we come across on reaching Stage IV of the civilization in the Sarasvati Valley, in the 3rd millennium BCE, may well be termed as a 'revolution within an evolution'. There is no walk of life in which this revolution is not reflected whether it be town-planning or industrial advancement or trade. In this stage, there sprang up a regular system of writing, of weights and measures and of seals and sealings, along with the production of pieces of art and craft – indeed all that is needed to call it a highly advanced civilization, as against its humble beginnings – pit-dwellings in the 5th millennium BCE. I have dealt





Fig. 6.47. Kalibangan: A seal and its impression, Stage IV.

with this revolution in my book, *The Earliest Civilization of South Asia* (1997, pp. 159-202), based on the material gleaned not only from the Sarasvatī valley but also from the entire area covered by this civilization, and hence do not propose to burden the reader with details of sorts. I will refer here only to a few examples from the Sarasvatī valley, which call for special attention. (Many sites, like Banawali, Rakhigarhi, etc., have been excavated, but since detailed reports on them have not yet been published and I do not have personal access to the unpublished material, I am constrained to restrict myself to the material from Kalibangan, of which I have a personal knowledge and which has since been published.)

A tremendous increase in trade is reflected by the large number of seals and sealings which Kalibangan has yielded. And here I produce a photograph of a sealing (Fig. 6.46), which throws light on how exactly the seals were used. This photograph shows four views of the same sealing. The two views in the upper row are almost identical showing the impression of a seal. However, in both the views may also be had a glimpse, in the upper right corner, of the face of an animal, indicating



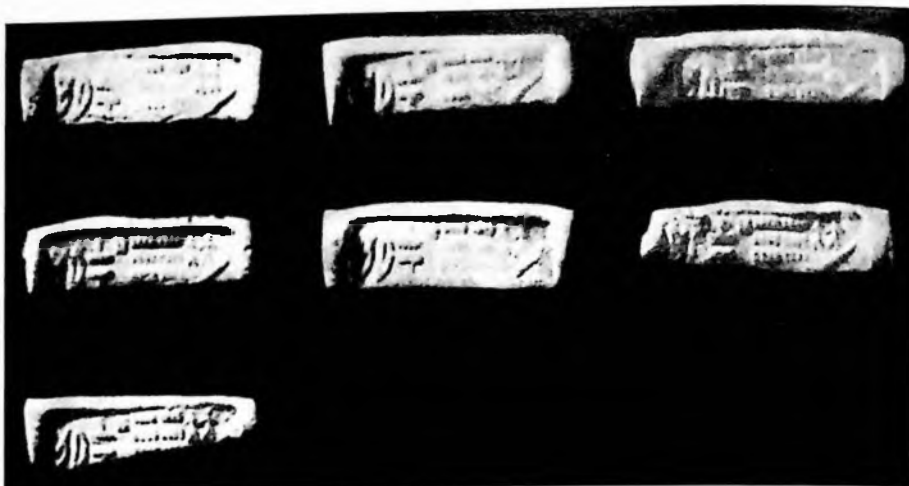


Fig. 6.48. Kalibangan: Terracotta sealings with identical legend, Stage IV.

that there is impression of yet another seal. The view on the bottom left shows marks of reeds and that on the right of knotted thread. Put together, all these views show that the material meant for sending out was first packed in a container made of reed and then the container was tied with a twined-up thick thread, which was knotted. Thereafter, over the knot a clay lump was put which was impressed by seals – evidently a proof of its identity. Many examples of this kind have been found at Kalibangan and elsewhere in the valley to confirm the practice.

Kalibangan has also yielded a cylinder seal with a unique motif (Fig. 6.47). In this photograph, while the seal itself appears on the right, its impression is there on the left. The impression shows a human-cum-animal figure in the middle and three human figures on the left side. Of these, the one in the middle is shorter and the other two flanking it extend long spears over the head of the central figure. What the legend exactly implies is difficult to say. However, the point of interest is that while square and oblong seals are common, cylindrical is not. It shows, in all likelihood, a contact with West Asia where cylindrical ones are common.

Attention may also be drawn to a series of seven sealings which are identical (Fig. 6.48). These do not have traces of any packing material on the reverse. On the obverse, only the legend is there. All these sealings come from a limited area of the Citadel,



which had ritualistic features (above, p. 101). Because of the repetitive nature of the legend thereon it is likely, though not proved, that the tablets may have been some kind of votive offerings.

The seals, sealings and pottery bear inscriptions in a script which, unfortunately, has not yet been deciphered. Although claims have been advanced by many scholars from all over the world that they have succeeded in deciphering the script, we have to say with deep regret that none of the claims has any validity. I have reviewed most of these claims and instead of repeating the same here would only invite attention to my papers (Lal 1970, 1974 and 1983) so that interested readers may go through the same. However, a very important contribution made in this context by Kalibangan is that it has yielded two inscribed potsherds, which have decisively demonstrated that the direction of writing in this script was from right to left, setting at rest the controversy whether it was from left to right or the other way round.

We present here only one of these potsherds (Fig. 6.49). On it may be seen three signs; if there was yet another on the right it cannot be said with certainty since the potsherd is broken at this end. On the left side, there is the 'V'-like sign beyond which there is blank space on the left. The question now is whether this V-like sign was the first or the last in the inscription. We may now have a close look at all the signs. The fish-like sign on the extreme right is composed of two arcs, crossing each other. Usually it also has two strokes jutting out, one on each side, but in the illustrated specimen that on the



Fig. 6.49. Kalibangan: Inscribed potsherd. Overlap of the letters shows that the direction of writing in the Harappan script was from right to left, Stage IV.





Fig. 6.50. Kalibangan: Terracotta bull, Stage IV.

right side is not to be seen, since the potsherd is broken at this end. The stroke on the left slightly overrides the left-hand arc of the 'fish'. If we move our eyes further to the left, we notice that this very stroke is overridden by two of the four strokes comprising a part of the next sign, which looks like an 'I' in the Roman script. Moving a bit further to the left, we observe that the bottom left-end of this 'I' is overridden by the bottom of the right arm of an apex-up angle. Further to the left, the left arm of this angle is overridden by the right arm of the 'V'-like sign. This V-like sign has two strokes on each side at the top. Of these, the lower stroke on the left side has a long flourish, indicating that the scribe was relaxed to finish the inscription, as we often do while ending our signatures. The overlap of the signs, just discussed in detail, very clearly shows that the 'fish'-like sign was inscribed first. Then came the 'I'-like sign with the 'angle' component thereafter. Finally, came up the 'V'-like sign. All this clearly demonstrates that the signs were inscribed serially from right to left. In other words, the direction of writing in this script was from right to left. There are, however, a few exceptions which only serve to prove that 'exceptions prove the rule'. Further, when the inscription runs into two lines, the second line begins on the left, so that the first sign of this line may remain in continuation of the last sign of the previous line.





Fig. 6.51. Kalibangan: Bronze bull, Stage IV.

When people are financially well off, arts and crafts also get a fillip. The same happened in the case of Stage IV of the civilization in the Sarasvatī valley. And here we present two examples of excellent craftsmanship, one each in terracotta and metal. The 18-cm long terracotta from Kalibangan shows a bull in a charging attitude (Fig. 6.50). Another bull from the same site, this time in bronze (Fig. 6.51), is indeed no less powerful.

(v) Political Set-up and Social Stratification

The elaborate planning of towns, their meticulous maintenance, high level of trade activities, occurrence of standardized bricks, weights, measures and seals not only in the Sarasvatī valley but all through the far-flung areas covered by the Harappan Civilization do point to a highly organized administrative-cum-political set-up. Long ago I had expressed a view (Lal 1997) that there may have been several states, with capitals, for example, at Rakhigarhi, Banawali, Kalibangan, Ganweriwala, Harappa, Mohenjo-daro, Dabarkot, Dholavira, Surkotada, Lothal and so on. However, if we have a look at the sizes of some of these settlements, we find a tremendous difference in them. For example, in Kachchh, whereas Dholavira was spread over 770 x 615 m, Surkotada was only 130 x 60 m, though both have the elements of a Citadel and a Lower Town. Thus, the rulers of these two settlements could not have enjoyed the same regal status. What exactly were the designations of their respective rulers we have no idea. But if we were to project back known



Indian terminology, the ruler of Dholavira may have been called a Samrāṭa, whereas that of Sukotada, a Rājā. These nomenclatures must, however, await a proper decipherment of the Harappan script, which unfortunately has not been achieved so far.

Now to social stratification. There does seem to have existed some sort of stratification in the society, as revealed by the layout of the 'Lower Town' and the 'Citadel' at Kalibangan. Though both these were fortified, yet had different kinds of layout inside. To recall, the Lower Town had streets running north-south and east-west, alongside which there were residential houses. An average house had a large courtyard around which were the living rooms, sometimes two deep. In the courtyard there was an oblong platform of mud on the top of which were placed the lower parts of pottery jars, containing water for the cattle to drink. In certain houses there were wells too. In one house a series of large storage jars was discovered. All this shows that in most cases the owners were well-to-do farmers. Likewise, in certain houses seals and sealings were discovered, indicating that the occupants were engaged in trade. Put together, the evidence from the houses in the Lower Town suggests that it was the residential complex for the agriculturists and merchants.

Against this, the Citadel presents a very different picture. The Citadel complex was divided into two parts by a medial wall, a southern and a northern. Both these parts had their own characteristic structures. In the southern part there were a series of mud brick platforms, each one carrying on its top a special kind of feature. In one case, seven contiguous fire-altars were found, along with a basal part of a jar in which fire was kept ready for the ritual. Nearby there were a well and a bathing platform, indicating that a ceremonial bath was a part of the ritual. The entire set-up makes one visualize the kind of ritual that must have taken place on this particular platform. On another platform was found a brick-lined pit containing bovine bones and antlers. This represents a ritual related to animal sacrifice.

In contrast to the southern part, the northern had no platforms, but only large residential houses. It appears that in these large houses there lived the priests who supervised the rituals that were performed on the platforms in the southern part of the Citadel. Between the aforesaid houses and the



medial partition-wall there was a paved pathway and it may be surmised that on this pathway there moved a procession of priests, which entered the southern part of the Citadel through an entrance in the medial wall and ascended the platforms to participate in the rituals.

To the south of the Citadel there was an area which was not fortified, but was left to fend for itself (Fig. 6.31). Not much excavation was done in this area. Nevertheless, it was noted that the houses over here were small and in the southern fringe of this area a pottery dump was found. For all one can say, in this area there lived the lowly ones who worked as domestic help for the priests in the Citadel and the well-to-do farmers and merchants in the Lower Town.

Thus, we find that there were at least three classes of people at Kalibangan in Stage IV: a priestly class that occupied the northern half of the Citadel; a farmer-cum-merchant class that lived in the Lower Town; and a workers' class that lived in the smaller houses in the unfortified area lying to the south of the Citadel.

Looking at the past from the prism of the present can sometimes be deceptive. Yet, if that kind of exercise is done, it would appear that the three classes we have just identified in the social structure of Kalibangan may well be the forerunners of the later-day Brāhmaṇas, Vaiśyas and so-called Śūdras. The Kṣatriya class does not seem to have yet emerged, since we do not have any material evidence – such as weapons of warfare, etc., to assume the existence of such a class. Maybe this class emerged later on when the need arose. If in this discussion we have an input from literature, we may draw attention to a verse in the *Bhagvadgītā* (Chapter IV, Verse 13) wherein Lord Kṛiṣṇa says: *Chāturvarṇyam mayā sṛiṣṭam guṇa-karma vibhāgaśaḥ*, i.e. I have created four kinds of divisions in the society, in accordance with the propensities of the people and the nature of the work they perform. For all we know, this initial work-based classification, in the course of time, got fossilized in the form of caste-system in the country.

(vi) Chronological Horizon

Of the various sites of Stage IV excavated in the Sarasvatī basin, it is only from Kalibangan that we have C-14 dates. These, however, are sufficient in number (as many as twenty-five) to



give us a reasonably fair bearing. Of these twenty-five dates, 12, 9 and 4 relate respectively to the Late, Middle and Early levels of Stage IV. Below we first give the dates in a tabular form and then an analysis thereof. (TF stands for Tata Institute for Fundamental Research.)

Stratigraphic Level	Sample No.	Date in ^{BCE} 5730-yr half-life	Calib-2 ^{BCE}
Late	TF-599	40±105	72 CE
Late	TF-138	1215±105	1391, 1334, 1327
Late	TF-244	1400±95	1521
Late	TF-143	1665±115	1880, 1830, 1829
Late	TF-946	1765±105	1968
Late	TF-149	1835±145	2118, 2083, 2041
Late	TF-150	1900±105	2181, 2166, 2142
Late	TF-605	1975±110	2283
Late	P-481	2045±75	2453, 2424, 2398
Late	TF-153	2075±115	2459
Late	TF-25	2100±115	2464
Late	TF-942	2225±115	2586
Middle	TF-152	1775±90	2014, 2006, 1976
Middle	TF-142	1795±105	2030, 1990
Middle	TF-141	1865±115	2134, 2059, 2048
Middle	TF-139	1940±105	2200
Middle	TF-151	1965±105	2278, 2234, 2209
Middle	TF-948	1980±105	2286
Middle	TF-147	2030±105	2450, 2348
Middle	TF-145	2060±105	2456, 2412, 2408
Middle	TF-608	2075±115	2459
Early	TF-947	1930±90	2197, 2154, 2148
Early	TF-163	2075±105	2459
Early	TF-607	2100±125	2464
Early	TF-160	2230±105	2587

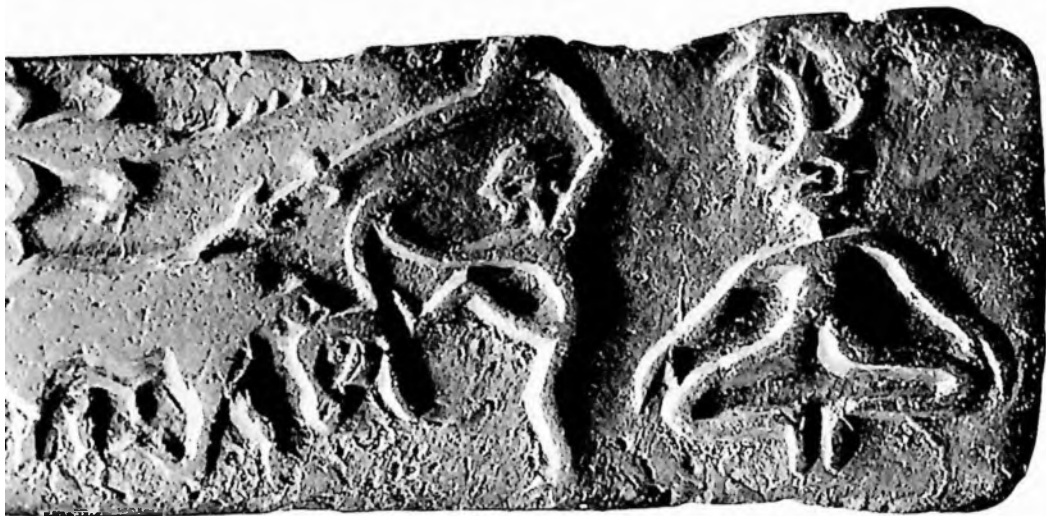


While assessing Carbon-14 dates for determining an absolute calender (BCE-CE) time-bracket for a given cultural horizon, we must recall that there are various weaknesses in the C-14 system. First of all, the half-life value has shifted from 5568 to 5730 years. Secondly, there have been successive revisions of the dates, such as Calib-1, Calib-2 and so on. Further, the carbon samples collected could have got contaminated during the course time owing to several factors. Finally, it must be remembered that the C-14 dates relates to the carbon sample, i.e. to the wood of the charcoal and not to the layer in which it was found. In other words, the wood may have been much older than the time when it was burnt and turned into charcoal. However, in spite of all these drawbacks, the Carbon-14 dates do give us a reasonably fair idea of the chronological horizon of the culture concerned from which the samples have been drawn.

Let us now get back to an assessment of the above-noted C-14 dates, which we have for Stage IV at Kalibangan.

The very first date, viz. 72 CE, yielded by Sample TF-599 has straightway to be rejected since by no stretch of imagination can it be said that this civilization continued all that late. Likewise, the dates given by Samples TF-244 and TF-138, viz. 1521 BCE and 1391/1334/1327 BCE, are quite far away from the rest of the dates to be taken seriously. As regards the other dates too, a peculiar phenomenon ought to be noted. For example, while TF-160 gives a date of 2587 BCE for the Early levels, almost the same date, viz. 2586 BCE, is given by Sample TF-942 for the Late levels. Again, all the three levels have yielded dates in the twenty-fifth century: Samples TF-607 and TF-163 for the Early levels; Samples TF-608, TF-145 and TF-147 for the Middle levels; and Samples TF-25, TF-153 and P-481 for the Late levels. However, in spite of all these shortcomings, if we go by the 'consensus' of all the dates, we find that they do give us a fairly good picture of the chronological horizon of Stage IV at Kalibangan, namely that it commenced in the 26th century BCE and continued up to circa 2,000-1900 BCE.





CHAPTER 7

The Civilization in the Sarasvatī Basin vis-à-vis the *Rigveda*

In the previous chapter we dealt with the evolution of the civilization in the Sarasvatī basin. We would now like to ascertain as to who exactly the people were who produced this remarkable civilization. As mentioned earlier (p. 41), the Sarasvatī was a much eulogized river during the Ṛigvedic times. It was regarded (RV 2.41.16) as *ambitame*, i.e. the best of mothers, *nadītame*, i.e. the best of rivers and *devitame*, i.e. the best of goddesses.

According to the *Ṛigveda*, there lived many 'peoples' in the Sarasvatī basin and many a king ruled there. For example, Verse RV 6.61.12 —

*Triṣadhaṣṭhā sapta dhātuh pañcha jātā vardhayanī /
vāje vāje havyā bhūt //* —



states that she (the Sarasvatī) was the ‘promotor of five peoples’; but does not specify their names.

However, Verse RV 7.96.2 –

*Ubbhe yatte mahinā śubhre andhasī adhikṣayanti Pūravalh /
Sa no bodhyavitri marutsakhā choda rādho maghonām //* —

specifically does mention the Pūrus.

Even the rulers are sometimes mentioned by name. For example, RV 7.95.2 mentions the name of Nahuṣa —

*Ekāchetat Sarasvatī nadīnām śuchir yatī giribhya ā samudrāt/
Rāyaśchetanti bluvanasya bhūrerghṛitam payo duduhe Nāhuṣāya //*

Or, RV 8.21.18 not only refers to a king named Chitra but mentions that there were other rulers as well, though of lesser importance.

*Chitra id rājā rājaka idanyake yake Sarasvatīmanu/
Parjanya iva tatanaddhi vṛiṣṭyā sahasramayutā dadat //*

There are many more examples of the kind. But even the few quoted above should suffice to convince the reader that according to the descriptions given in the *Rigveda*, the Sarasvatī basin was bustling with activities, with ‘peoples’ inhabiting it and kings ruling over them.

This picture would have straightaway established a correlation between the cultural remains unearthed in the Sarasvatī basin (referred to in the preceding chapter) and the textual descriptions in the *Rigveda*. Unfortunately, however, the date, viz. 1,200 BCE, assigned to the Vedas by Max Muller in the 19th century, has always been the greatest stumbling block. In spite of the fact that Max Muller himself retracted from it (see above, p. 11), a few scholars even today tenaciously cling to this date.

It is, therefore, imperative to re-examine the date of the *Rigveda*.

In determining the date of the *Rigveda*, the history of the river Sarasvatī plays a very important role. As already noted, the Sarasvatī was a mighty flowing river during the Rigvedic times. However, the *Pañchviṃśa Brāhmaṇa* (XXV.10. 16) says: “At a distance of journey of forty days on horse-back from the spot where the Sarasvatī is lost (in the sands of the desert), (is





Fig. 7.1. Appearance of Bata-Markanda Divide, as a result of which the course of the Sarasvati was diverted.

situated) Plakṣa Prasravaṇa". (Caland's translation, 1931, reprint 1982, p. 636.) While it may not be easy to identify correctly the location of Plakṣa Prasravaṇa, it is nevertheless clear that the Sarasvatī had dried up before the time of the *Pañchaviṃśa Brāhmaṇa*.

However, this text does not tell us when exactly this drying up took place. We have, therefore, to look for evidence from other sources in this regard. And here geology, hydrology, archaeology and radiocarbon method of dating, all put together, come to our help.

In Chapter 5 we cited the field-work carried out by two eminent geologists, V.M.K. Puri and B.C. Verma (1998), which showed that the Sarasvatī originated from the Himalayan glaciers and moving south-westwards cut across the Siwaliks to descend on the plains. In the course of further field-work, these scholars have found out that because of tectonic movements there came up the Bata-Markanda Divide, which is nearly 30 meters in height (Fig. 7.1) It blocked the path of the



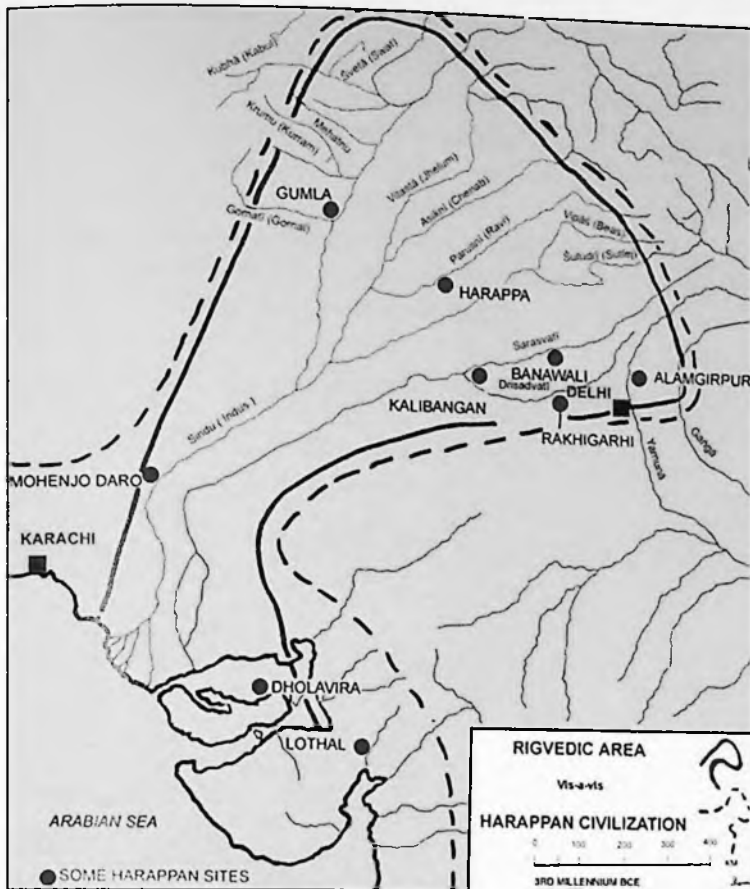


Fig. 7.2. Map showing a correlation between the Rigvedic area and the spread of the Harappan Civilization, in the 3rd millennium BCE.

Sarasvatī, which could no longer flow westwards. It had perforce to reverse its direction and, finding the Yamuna Tear opening on the south-east, took to a new course and joined the Yamunā. Thus ended the glorious story of the mighty R̥gvedic Sarasvatī.

But when exactly did the Tectonic Demon stood in the way of the Sarasvatī following its old course and lose its identity? The geologists have not yet provided us a firm date. However, here the evidence of other sciences, namely hydrology, archaeology and C-14 method of dating the past is very significant.



In the 1960s, we were carrying out excavations at Kalibangan. An opportunity was taken to investigate the history of the now-dry Sarasvatī on whose bank the site is situated. A team of Indian and Italian hydrologists, under the leadership of Robert Raikes, bored several holes in the bed of the river. After a thorough analysis of the data, Raikes published a paper in *Antiquity* (1968), entitled, 'Kalibangan: Death from Natural Causes'. And the cause of the 'death' was the drying up of the river. According to radiocarbon dates (see above, p. 117), the settlement at Kalibangan had to be abandoned around 2,000-1900 BCE. In other words, the Sarasvatī dried up around 2,000 BCE.

Since during the days of the *Ṛigveda* the Sarasvatī was a mighty flowing river, it becomes self-evident that the *Ṛigveda* is anterior to 2,000 BCE. How much earlier is anybody's guess. At least a 3rd millennium BCE horizon is indicated. Further, the *Ṛigveda* consists of ten *Maṇḍalas* of which Nos. 6, 3 and 7 are acknowledged on all hands to be the earliest. It is thus not unlikely that the earliest *Maṇḍalas* may have been composed sometime in the 4th millennium BCE, if not somewhat earlier.*

Extending the canvas beyond the Sarasvatī basin, we find that the *Ṛigveda* gives a very good idea of the territory occupied by the *Ṛigvedic* people. Verses 5 and 6 of *Sūkta* 75 of *Maṇḍala* X refer to the entire area lying between the Gaṅgā-Yamunā on the east and the Indus and its western tributaries on the west, as follows:

*imam me Gaṅge Yamune Sarasvati Śutudri stomam sachatā
Paruṣṇyā /*

Asiknyā Marudvṛidhe Vitastayā Ārjikiye śṛiṇuhyā Suṣomayā // 5 //
Trīṣṭāmayā prathamam yātavi sajūḥ Susartvā Rasayā Śvetyā tyā /
Tvam Sindho Kubhayā Gomatīm Krumum Mehativā saratham
yābhīriyase // 6 //

* In this context it may be mentioned that a reference to the shifting of the vernal equinox from Mṛgśīras to Rohiṇī in the *Aitareya Brāhmaṇa* has led many astronomers to assign this text to ca. 3,500 BCE and thus the Vedas to the 4th millennium BCE or even earlier. Likewise, on the basis of the linguistic data, many other scholars (e.g., Kazanas 2009) place the *Ṛigveda* in the 4th millennium BCE.



O Gaṅgā, Yamunā, Sarasvatī, Śutudrī (Sutlej) and Paruṣṇī (Ravi), O Marudvṛdhā with Asiknī (Chenab), O Ārjikiyā with Vitastā (Jhelum) and Suṣomā (Sohan), please listen to and accept this hymn of mine. // 5 //

O Sindhu (Indus), flowing, you first meet the Trīṣṭāmā (and then) the Susartu, the Rasā and the Śvetā (Swat), and thereafter the Kubhā (Kabul), the Gomatī (Gomal), the Krumu (Kurram) with Mehatnu; and finally you move on in the same chariot with them (i.e. carry their waters with you).
// 6 //

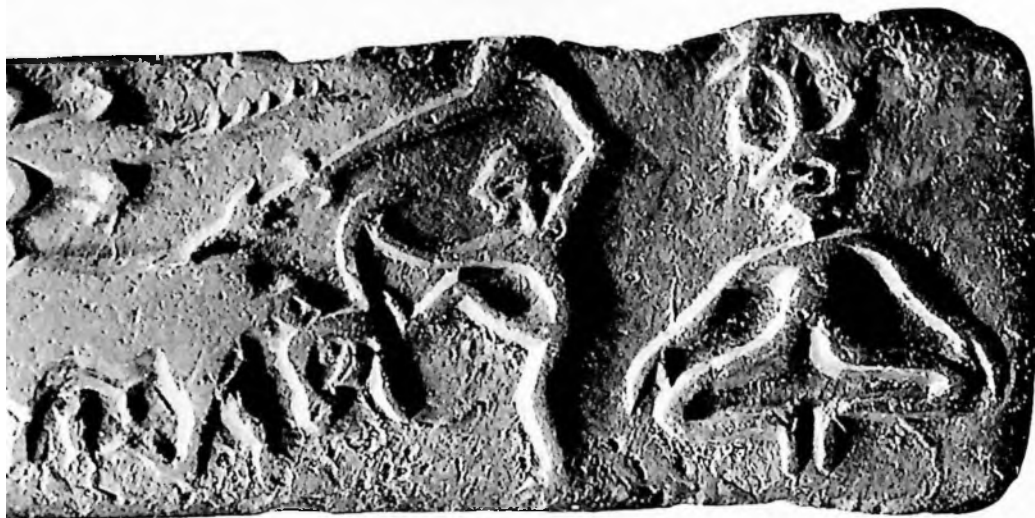
Now, a forthright question may be asked: Archaeologically, which culture occupied this very area during the 3rd-4th millennia BCE, i.e. during the time of the *Rigveda*? The inescapable answer will have to be: the Harappan (also called the Indus/Indus-Sarasvatī) Civilization. In other words, the Vedas and the Harappan Civilization are but two faces of the same coin (see Fig. 7.2).**

Further, in Chapter 6 we saw that the roots of this civilization go back to the 6th-5th millennia BCE. In other words, it was indigenous. Since, as we have just seen, this civilization and the Vedas are but two faces of the same coin, the Vedic people were indigenous. They were neither 'Invaders' nor 'Immigrants'.

How long shall we continue to blindfold ourselves?

** Attention may be drawn to an interesting study by Bhagwan Singh (1995), wherein he compares various items of the Harappan Civilization with terms mentioned in the *Rigveda*.





CHAPTER 8

In Retrospect and Prospects

What we have discussed in the previous chapters may be summarized as follows:

1. The Aryan Invasion of the Indian sub-continent is a total myth (Chapter 2).
2. Equally mythical is the postulate that the Aryans were 'immigrants', if not 'invaders' (Chapters 3 and 4).
3. The R̥gvedic river Sarasvatī is not the Helmand of Afghanistan but is to be identified with a now-dry river, which is known as the Sarasvatī-Ghaggar combine in the Haryana and Rajasthan regions of India, the Hakra in Cholistan and the Nara in Sindh, both the latter regions being in Pakistan (Chapter 5).
4. In the basin of this Sarasvatī there evolved a remarkable civilization. To begin with, the people dwelt in pits, in the



5th millennium BCE, and progressed through various stages to reach a high level of civilization when they built fortified cities in the 3rd millennium BCE (Chapter 6).

5. The Sarasvatī has been referred to many times in the *Rigveda* and was regarded by the people as the most sacred of all the rivers. This river dried up around 2,000 BCE, as shown by the evidence of hydrology, geology, archaeology and radiocarbon method of dating. Hence, the *Rigveda* has got to be earlier than 2,000 BCE. How much earlier is anybody's guess but at least a 3rd-millennium BCE horizon is clear. Some of the *Maṇḍalas* of the *Rigveda* are known to be very early and hence these may well go back to the 4th-5th millennium BCE.
6. Thus, taking into consideration the two very important parameters, namely those of region and chronological horizon, it is self-evident that the civilization that prevailed in the Sarasvatī valley from the 5th millennium BCE to the 3rd millennium BCE is indeed that of the Rīgvedic people.
7. From what has been stated in No. 6 above, it becomes absolutely clear that the **Rīgvedic people are neither 'invaders' nor 'immigrants' but indigenous.**

But this is not the end of our search. We would like it to be continued further, and the following are a few suggestions in this context:

1. The pit-dwellers of Bhīrrana and Kunal are already in a 'Copper Age'. What were their antecedents? Any Mesolithic/Microlithic horizon? To get an answer, one must thoroughly explore the neighbouring regions, particularly the area along the Siwalik foothills. The exploration must be followed by excavations at selected sites.
2. In the Cholistan region, excavations ought to be carried out at suitable sites in order to find out what preceded the Hakra Ware Culture. Do the microliths met with at these sites constitute a separate and earlier horizon?
3. Ganweriwala in Cholistan appears to be one of the largest sites of Stage IV in the cultural evolution in the Sarasvatī valley. A large-scale horizontal excavation at this site is bound to throw further valuable light on this Stage.

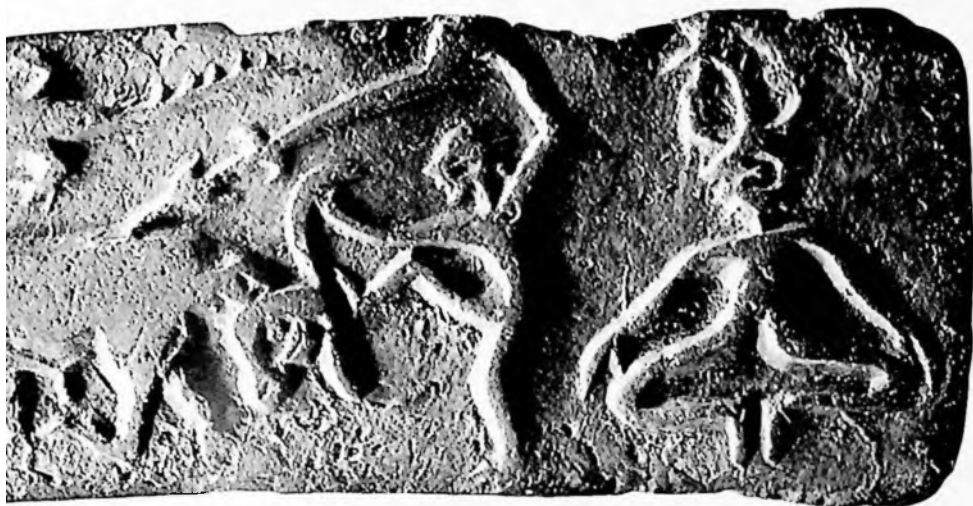


I appeal to the Archaeological Survey of India and other archaeological institutions in India to seriously take up Suggestion No.1 at the earliest.

Likewise, I hope that Suggestions 2 and 3 will not go unnoticed by the Department of Archaeology, Government of Pakistan and other archaeological institutions in that country.

Though I am past 92 now, I would patiently wait for my appeal to be heard and acted upon by the powers that be.





A P P E N D I X I *

Did Some Vedic People Emigrate Westwards, Out of India?

The answer to the above-mentioned question is an unhesitating 'Yes'. It comes from three, completely independent, areas, two of which are separated from each other by thousands of kilometers, while the third one lies in between them. These areas are: (i) Turkey in the west; (ii) India in the east; and (iii) Iran in the middle.

Turkey has yielded incontrovertible inscriptional evidence about the presence of the Aryans in that region at least as far back as the 14th century BCE. The entire community of historians

* This Appendix is reproduced from my book, *How Deep are the Roots of Indian Civilization: Archaeology Answers*, 2009, pp. 129-35, New Delhi: Aryan Books International.



and archaeologists was struck with surprise when, in the first decade of the 20th century, Hugo Winckler discovered in his excavations at Bogazkoy certain inscribed clay tablets on which was recorded a treaty between a Mitanni king named Matiwaza and a Hittite king, Suppiluliuma, ascribable to circa 1380 BCE. As witnesses to this treaty, the two rulers invoked the following Vedic gods: Indara (=Vedic Indra), Mitras (il) (=Vedic Mitra), Nasatia(nna) (= Vedic Nāsatya) and Uruvanass(il) (=Vedic Varuṇa).

And the treaty is only a chip of the large block. From this region and its neighborhood, more than a hundred names have come to light which have a Sanskrit stamp on them, such as: Biridasva (=Vedic Vṛidhāśva); Urudīti, a Hurrian king (= Skt. Urudīti); Artasumara, another Mitanni king (= Vedic Ritasmara), in addition to Matiwaza = Mativāja, already mentioned, and so on. The context of some of these names goes back to the 17th century BCE. Then there is another remarkable document. It deals with the technique of horse-training and mentions Sanskrit numerals like *ekavartana*, *trivartana*, etc., meaning thereby that the horse under training should be made to make one round, three rounds and so on of the race-course.

Though the foregoing data are enough to establish the presence of Vedic Aryans in ancient Turkey, there is yet another kind of evidence to which attention may be drawn. In the Mitannian art, dating at least to the 16th-17th century BCE (perhaps even to circa 2100 BCE), there is the portrayal of the peacock – a bird typical of India. This couldn't have been the case unless Indians were behind the inspiration.

Commenting on the Bogazkoy evidence, the renowned Indologist T. Burrow observed (1955): 'The Ayrans appear in Mitanni from 1500 BC as the ruling dynasty, which means that they must have entered the country as conquerors.' 'Conquerors from where', may not one ask? At that point of time there was no other country in the entire world except India where the above-mentioned gods were worshipped. And since, as has already been shown earlier, the *Rigveda* decidedly belonged to a period prior to 2000 BCE (see above, p. 122), there is no chronological obstacle in such a hypothesis.



In this context, let the reader be told that this very Bogazkoy evidence was given a different twist by certain scholars in the past. While admitting that the gods mentioned in the treaty were Indo-Aryan, they argued that these people were on their way to India. They took this stand because in those days, as per Max Muller's fatwa, the Vedas were considered to have been only as old as 1200 BCE whereas the Bogazkoy inscription was dated to the 14th century BCE. Now that we know fully well that the Vedas are in no case posterior to 2000 BCE, that kind of argument is no longer valid.

Again, some scholars have even gone to the extent of saying that this very region was the 'original home' of the Aryans. But this stand, again, is fundamentally incorrect. Why? Because when we say that such and such area was the 'original home' of a people called X, we mean that the local population was by and large that of X and was rooted in the area. But this was not the case with the Bogazkoy region. The local population was different and the Aryans were only the rulers, coming from outside, as shown by Burrow. Had they constituted the core or base of the population, they and their language would have 'lived on and on', which is not the case.

The evidence from Iran is no less revealing. The sacred book of the Zoroastrians, viz. the *Āvestā*, is language-wise very close to but later than the *Ṛigveda*. A conspicuous difference is that the *Ṛigvedic* 's' becomes 'h' in the *Āvestā*. Content-wise, the *Āvestan* religion reflects a kind of dissent from that of the *Ṛigveda*. The concepts of *Devas* and *Asuras* get reversed. Nevertheless, there is a genetic relationship between the two. All this shows that the *Āvestan* people were closely related but posterior to the *Ṛigvedic* people – a situation which can only be explained by some of the *Ṛigvedic* people having moved to the land of the *Āvestā*. There are many pieces of internal evidence in the *Āvestā* itself, which testify to this. For example, the *Āvestā* refers to *Yoi hapta Hendu*, which is none else than the *Sapta Sindhu* of the *Ṛigveda*. Such a mention of the *Ṛigvedic* land of 'Seven Rivers' (*Sapta Sindhu*) in the *Āvestā* can only mean that the *Āvestan* people continued to cherish the memory of that *Ṛigvedic* land – a clear indication of the westward movement of the *Ṛigvedic* people.



However, it is not unlikely that the section of the Rigvedic people that finally settled down in Persia, may have, on the way, sojourned for some time in Afghanistan, during which period the aforesaid linguistic and religious changes would have taken place.

It may not be out of place to have a word about the make-up, region of the composition and the date of the *Āvestā*. The *Āvestā* has two major divisions, generally referred to as 'Old' and 'Young'. The 'Old' comprises *Gāthās*, which are believed to have been composed by Zarathustra himself. It also has a part known as *Yasna Haptanghaiti* of which the authorship is not known. The 'Young' *Āvestā* comprises many an item such as religio-legal texts, hymns devoted to certain deities, etc. All available evidence suggests that the *Āvestā* was composed most probably in north-eastern Iran. As regards the date, the issue is somewhat controversial. According to one view, it may well go back to circa 14th-11th century BCE, while another view would bring it down to 8th-7th century BCE.

While the debate about the exact date of the *Āvestā* would continue until some clinching evidence becomes available, it may interest the reader to know that the region mentioned as *Parśvaḥ* in a Vedic text, *Baudhāyana Śrautasūtra* (to be discussed next), is also mentioned by almost the same name in a completely independent document thousands of kilometres west of India. Dated to 835 BCE, it states that King Shalmaneser of Assyria received tributes from 27 kings of Parsuwas. That would imply that by the 9th century BCE, the *Pārśvas* had fully established themselves in the region and had evidently reached there several centuries before – maybe by the middle of the 2nd millennium BCE. All this would give legitimacy to the above-mentioned early date both for the *Āvestā* as well as for the migration of the *Pārśvas* from India to Iran sometime in the 2nd millennium BCE.

Finally, the evidence from India itself, endorsing an emigration of the Vedic Aryans out of India, to three contiguous regions towards the west. A Vedic text, namely the *Baudhāyana Śrautasūtra* (18.44), runs as follows (cf. Fig. Apx. I.1):

*Prānāyaulḥ pravavrāja tasyaite Kurū-Pañchālāḥ Kāśī-Videhā ity etad
Āyavam pravrajām. Pratyāñ Amāvasus tasyaite Gāndhārayas Parśvo
Arāṭṭā itya etad Āmāvasavam*



अहरहरागच्छेयुस्तदाशना स्था^१ न त्वा नमं पश्येयमिति^२
 सर्वमेवैतद्भगवति सुकरमिति होवाच^३ कथा त्वपि^४ जाया
 पतिं नमं न पश्यतीत्यन्तर्वासं वसीथा^५ इति होवाचानग्नो
 भवेति^६ तथा सहोवासान्तर्वासं वसानः^७ सा ह स्र जाता-
 ४. ज्ञातानेव पुत्रानपविध्यति^८ ताः ह राजोवाच पुत्रकामा ह
 वै भगवति वयं मनुष्याः स्मो जाताज्जातानु त्वमपविध्यसीति^९
 सा होवाच पर्यवेतराचयो भवन्ति क्षीणायुषोऽन्ये^{१०} भूयः
 प्रियं करवावहा इति^{११} सायुं^{१२} चामावसुं च जनयां चकार^{१३}
 सा होवाचेमौ विभृतेमौ^{१४} सर्वमायुरेक्ष्यत इति^{१५} प्राङ्मायुः
 १. प्रवमाज^{१६} तस्यैते कुरुपञ्चानाः^{१७} काशिविदेहा इत्येतदायवं
 प्रमाजं^{१८} प्रत्यङ्मावसुस्तस्यैते गान्धारय^{१९} स्यर्गवो ऽराडा
 इत्येतदामावसवम्^{२०} ॥ ४४ ॥

अथो हास्या एषा पूर्वचित्तिरप्सरा स्वसा बभूव^{२१} सा
 हेचां चक्रे व्योम् वै मे स्वसा मनुष्येभ्यवात्सीद्वृक्षैनामच्छाया-

१ त्वपि L, त्वपि the other MSS.

२ वसीथा L Be (sec. m.) वासीत्याम् the other MSS.

३ भवन्ति MSS. exc. L, which has तेन ह वामनो भवतीति ।

४ सायुं Be (sec. m.).

५ विभृते Be L; the other MSS. om. these words.

६ •पञ्चाना L B.

७ The proper names given acc. to Be (sec. m.); the other MSS.

माधारा (or रौ) पयस्यर्गवोदारा (or त्य) सा (or वा) ।

८ इत्येतदामावसुम् or इत्येतदामावसुम् or इत्येतदामावसुम् MSS.



Translated into English, the Sanskrit text avers:

‘Āyu migrated eastwards. His (progeny) are the Kurū-Pāñchālas and Kāśi-Videhas. Amāvasu migrated westwards. His (progeny) are the Gāndhārī, Paraśu and Āraṭṭa. This is the Amāvasva migration’.

The details of these migrations are as follows: Aila Pururavas and Urvaśī had two sons, named Āyu and Amāvasu. They migrated, respectively to the east and west. The former, moving eastwards, gave rise to the Kurū-Pāñchāla and Kāśi-Videha dynasties, while the latter, moving out to the west, went over to Gāndhāra, Paraśu and Āraṭṭa. This bifurcation evidently took place in an area which was between the Kurū region on the east and the Gāndhāra region on the west. In other words, the scene of partition lay somewhere in Panjab.

The identification of the destinations arrived at by the two branches poses no problem. The Kurū-Pāñchāla territory lay in eastern Haryana and western Uttar Pradesh. The Kāśi-Videhas were settled in eastern Uttar Pradesh and western Bihar. Of the territories reached by the western branch, Gāndhāra is straightaway identifiable. It is the Kandahar province and neighboring region of Afghanistan. Likewise, Paraśu is identifiable with Persia, which was renamed ‘Iran’ only as recently as 1935. It is only the location of Āraṭṭa that has caused some debate.

This place (Āraṭṭa) is mentioned not only in the above-referred-to Vedic text but also in an epic thousands of kilometers away in the west, in Iraq. The epic, ascribable to the end of the 3rd millennium BCE, mentions that Enmerkar, the king of Uruk, sent a messenger, making certain demands, to Ensuhgiranna, the ruler of Āraṭṭa. We are not concerned here with the other details of the story, but with the identification of Āraṭṭa. Some scholars identify it with Ziroft, while some others with Ararat. Fed up with the unending debate, some even go to the extent of calling it unreal and a mere ‘concoction’ by the composer of the epic. Our failure to arrive at a consensus regarding the identification of the place is no justification for calling it a ‘concoction’. You can’t throw the baby out with the bath water. Black, Cunningham et al. (in an Internet presentation) place Āraṭṭa in ‘the snow-capped mountains that border Mesopotamia’. Further, in a section of the poem, the ruler of



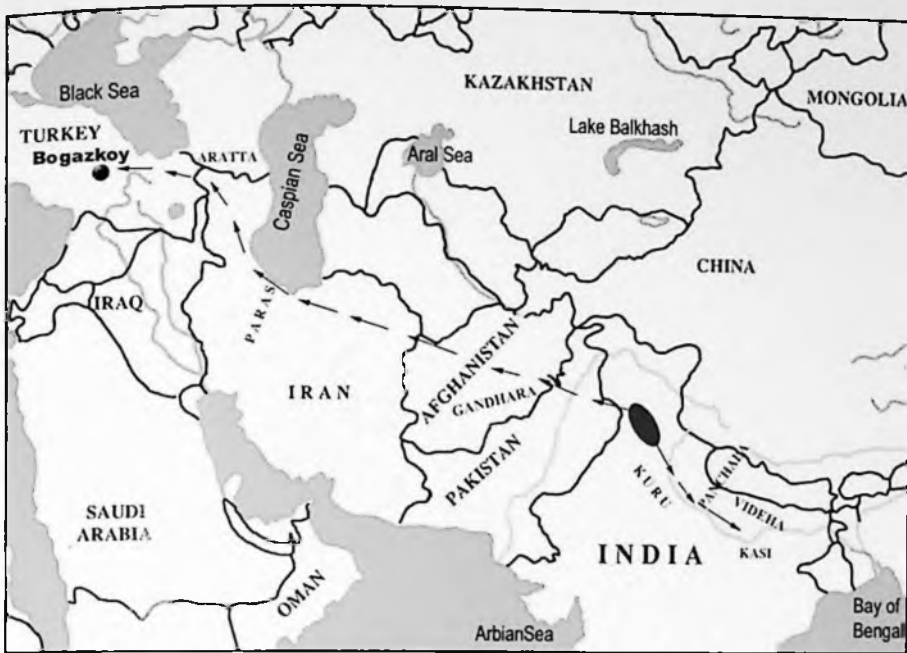


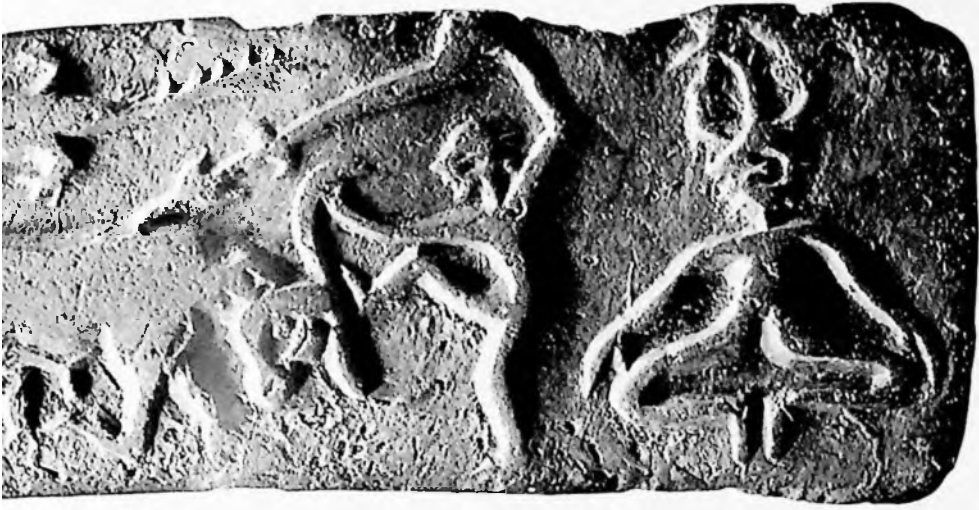
Fig. Apx. I.2. Migration of the Vedic people westwards, as mentioned in the *Baudhāyana Śrautasūtra*.

Araṭṭa tells the messenger: ‘...The queen of heaven and earth, the goddess of the numerous *me*, holy Inana, has brought to Araṭṭa, the mountain of shining *me*, I whom she has let bar the entrance of the mountains as if with a great door...’ From the foregoing account it would appear that Araṭṭa was located close to an opening (pass) in the mountains, which the ruler of Araṭṭa could easily seal. All this enhances the claim of the Ararat region, located close to the north of Iraq, in a mountainous terrain, as being Araṭṭa of the Sumerian epic. Further, if on grounds of phonetic similarity Gāndhāra and Parsū of the Vedic text can be identified respectively with Kandahar and Persia, and Susin and Ansan, mentioned in the Sumerian epic, with Susa and Ansan, what, one may ask, is the reason to discard that very principle in the case Araṭṭa? It, therefore, stands to reason that the proposed identification by some scholars of Araṭṭa with Ararat in the Armenian region, to the north-west of Persia, may be in order. In that case, the Vedic Aryans, emigrating out of India, travelled via Kandhar and Persia (Iran) to Ararat, following a south-of-the-Caspian-Sea route. And since from Ararat to Turkey



is just a next-door affair, the immigration of the Vedic Aryans into Turkey becomes self-explained. Further, as there are enough dated records on the Turkey side, the emigration from India is easily assignable to the first half of the 2nd millennium BCE.





A P P E N D I X II*

Let Not Preconceived Notions Blur Our Vision: The Case of Kalibangan 'Fire-altars'*

Writing about the 'fire-altars' discovered at Kalibangan, in an article in *The Penguin Handbook of Ancient Religions*, edited by John R. Hinnel and published by Penguin Books, New York, 2009, the distinguished American archaeologist Professor Gregory L. Possehl states (p. 477): "The excavator, B.B. Lal, originated the notion that these pits were 'fire-altars' and associates them with ritual ablutions that would have been performed prior to worship, something current in India among

* Reproduced from S.P. Gupta Memorial Volume, under publication by Indian Archaeological Society, New Delhi.



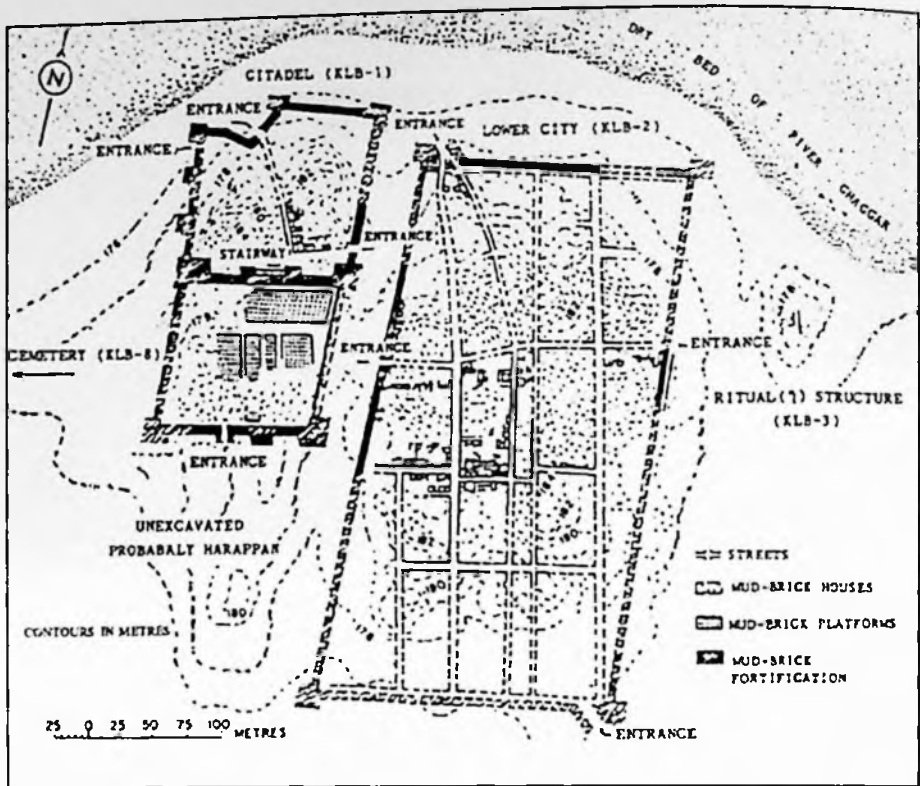


Fig. Apx. II.1. Kalibangan: Site-plan of Stage IV (Mature Harappan).

the Hindu communities.” Professor Possehl concludes by asserting:

In the end the Kalibangan plastered pits have been called ‘fire-altars’ mostly by default: what else could they be? Without suggesting that this identification is totally incorrect, it is not a strong form of archaeological reasoning, and should be taken as a tentative conclusion, at best. There is still a chance, after all, that these were facilities for cooking and merely reflect the day-to-day life of the Indus peoples.

In order to discuss the above-noted stand taken by Professor Possehl, it becomes necessary to describe briefly what these features are like. Thus, I have first to introduce the reader to the various components of the site itself. Located on the bank of ancient Sarasvati, now dried up except for about a hundred miles in its upper reaches, the settlement at Kalibangan consists of three distinct parts which have been named: KLB-2, the Lower

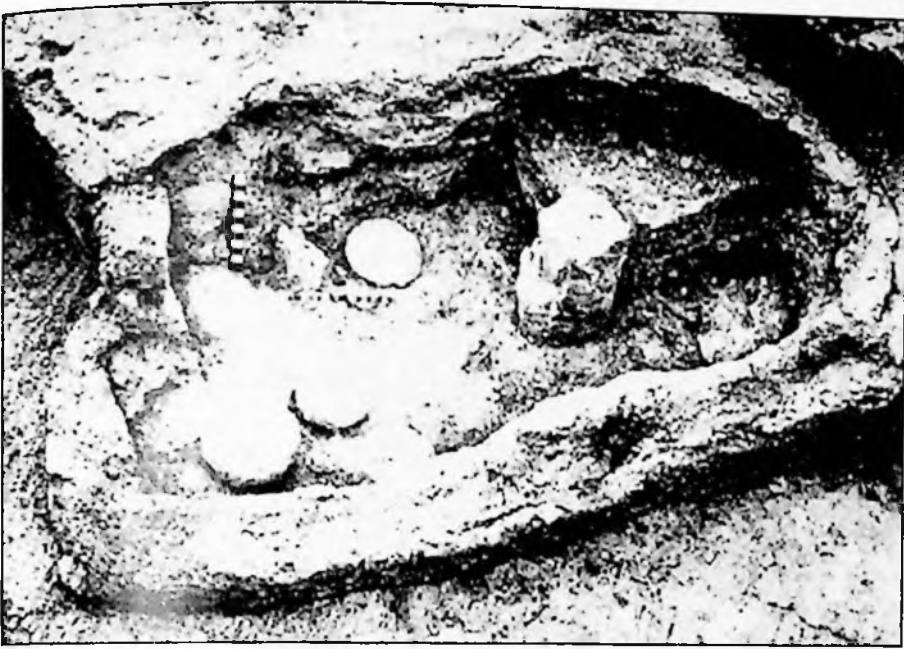


Fig. Apx. II.2. Kalibangan: A 'fire-altar' in a house in the Lower Town, Stage IV (Mature Harappan).

Town, occupying as the central position; KLB-1, the Citadel on the west; and KLB-3, a small, low mound on the east (Fig. Apx. II.1). The Lower Town, which is the general habitation area, presumably occupied by agriculturists and merchants, is enclosed by a fortification wall and is divided into several house-blocks by means of streets forming a grid-pattern on plan. In contrast, the Citadel, which is also fortified, has two distinct components, separated by a medial wall. While in the southern part there were several platforms over which stood specialized structures, in the northern part there were houses presumably occupied by elites and priests. The small area on the extreme east had no dwelling houses but only certain features which seem to have had some ritualistic association.

In some of the houses in the Lower Town, a room seems to have been earmarked for features which have been called 'fire-altars'. May it, however, at once be added that these have nothing to do with the well-known fire-altars of the Parsis. Roughly rectangular on plan with somewhat rounded ends, these measured, on an average, about a meter in length, half-a-meter in width and 25 cm in depth (Fig. Apx. II.2). The sides were





Fig. Apx. II.3. Kalibangan: A row of seven 'fire-altars' in the southern half of the Citadel, Stage IV (Mature Harappan).

plastered with mud. What is characteristic is that in each 'fire-altar' there stood a central stele measuring about 30-40 cm in height. Usually cylindrical in shape, but sometimes faceted, it had a diameter of only about 10-15 cm. Within the 'fire-altars' there lay a number of circular-biconvex 'cakes' of clay. The presence of charcoal and ash indicated that these altars were associated with fire.

As mentioned earlier, there were several platforms in the southern half of the citadel, but no dwelling houses. On one of the platforms there were seven contiguous 'fire-altars', a few of which, however, were destroyed by a subsequent drain (Fig. Apx. II.3). Though somewhat disturbed, the central stele and cakes were nonetheless there. Close by, on the west of these altars, there lay embedded in the ground the lower half of a jar, containing ash and charcoal. This indicates that fire was kept ready in this jar, to be used in the ritual in the altars. To the north-west of the altars there were a well and a bathing platform (Fig. Apx. II.4), suggesting that those who performed the rituals



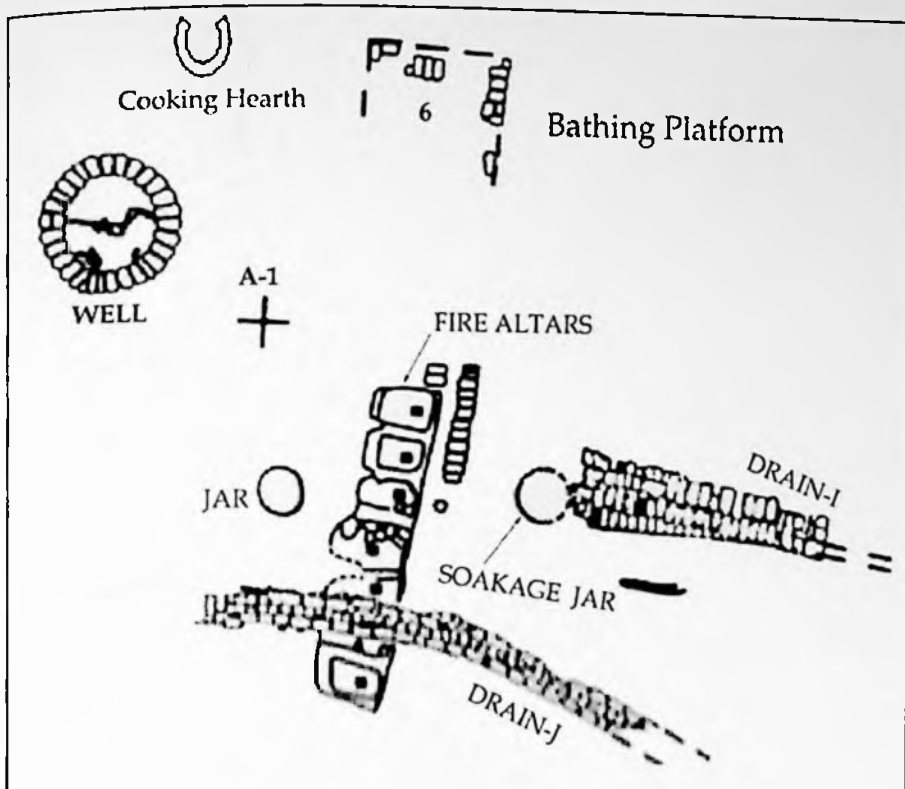


Fig. Apx. II.4. Kalibangan: Plan of a part of the Citadel. Here one sees the seven 'fire-altars', a well, a bathing platform and a U-shaped cooking hearth, Stage IV (Mature Harappan).

presumably had to take a bath. Further, behind the row of the altars there was a north-south wall indicating that those who performed the rituals had to face the east. In this context, it may, incidentally, be mentioned that both the practices, viz. that of having a pre-ritual bath and of facing the east while performing the ritual, are to be noted amongst the Hindus even to this day.

The low and small mound, marked KLB-3 on the plan (Fig. Apx. II.1), had a peripheral wall of which only remnants were identified. Within this enclosure, several 'fire-altars' were met with, but there were no dwelling houses.

THE EVIDENCE OF ACTUAL COOKING HEARTHIS

Kalibangan has yielded ample evidence of actual cooking hearths. Three examples, from different parts of the site, are



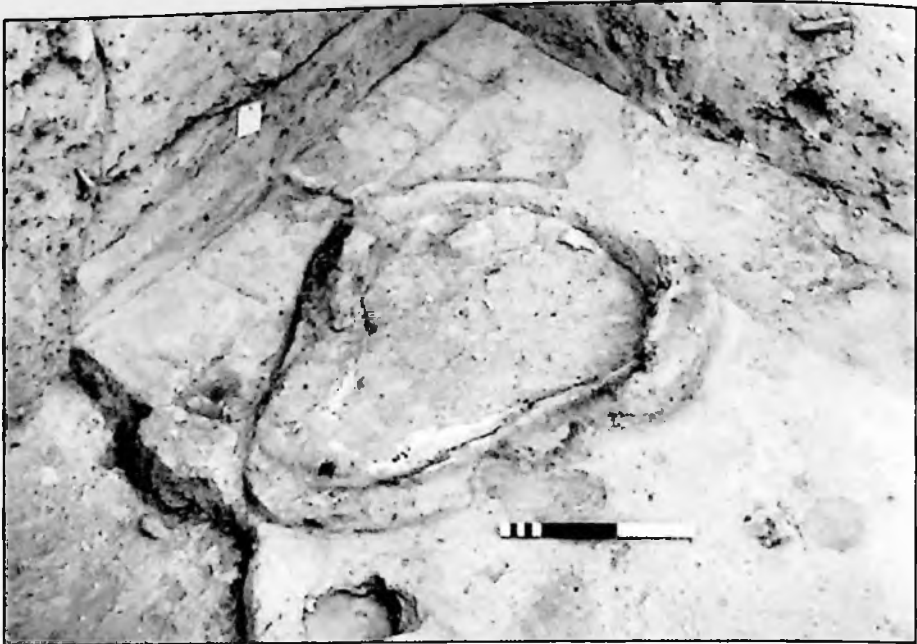


Fig. Apx. II.5. Kalibangan: A cooking hearth in a house in the Lower Town, Stage IV (Mature Harappan).

illustrated here (Figs. Apx. II. 5, 6 and 7). It would be observed that the cooking hearth had a semi-circular or U-shaped hind part and a tongue-shaped front part. The hearth was dug a few centimetres deep into the ground level, there being a downward slope from the tongue-end towards the hind part. This kind of provision was made to insert fire-wood from the frontal side. The semi-circular/U-shaped part had a low wall arising from it, which was usually made of mud but sometimes of mud bricks, as seen in the example at Fig. Apx. II.7. The distance between the side-walls of the semi-circular/U-shaped part was wide enough to hold the lower part of the cooking vessel (usually a carinated *hāṇḍī*). In all these examples, ash and charcoal fragments were duly met with, testifying to the association of these features with fire. In this context it may be well worthwhile adding that this particular-shaped cooking hearth is still used in rural parts of India, the cities having switched on to gas connections with burners.





Fig. Apx. II.6. Kalibangan: A cooking hearth in another house in the Lower Town, Stage IV (Mature Harappan).

INHERENT FLAWS IN POSSEHL'S THESIS THAT THE 'FIRE-ALTARS' WERE COOKING HEARTHES

There are many inherent flaws in the thesis that the features termed as 'fire-altars' are cooking hearths. In the first place, one fails to understand the function of the central stele in these features in case these were cooking hearths. This tall and slender stele, sited vertically in the middle of the 'fire-altar', was certainly unsuitable for placing on its top a large-sized cooking vessel. If forcibly placed thereon, it will certainly topple down. Again, if it is argued that one end of the cooking vessel was





Fig. Apx. II.7. Kalibangan: Yet another cooking hearth in the Lower Town, Stage IV (Mature Harappan).

placed atop the stele and the other on the edge of the 'altar', this would also not have been practical, since the levels in the two cases were quite different, resulting, once again, in the toppling down of the vessel. And what were the 'cakes' doing? If it is argued that these provided the required heat for cooking, that also does not seem to have been the case. The cakes had not been fired to such an extent so as to provide extra heat for cooking.

Further, when there were regular cooking hearths in the houses (cf. Figs. Apx. II. 5, 6 and 7), where was the need to have this unusual kind of structural feature, supposedly used for cooking? At this point, I would also like to invite the attention of the reader to Fig. Apx. II.4, which gives the layout of the seven 'fire-altars', a well and a bathing platform. It would be seen that close by there was also a cooking hearth of the normal



U-shaped type. If the 'fire-altars' were meant for cooking, where was the need to have a regular cooking hearth side by side?

To pass on to the KLB-3 complex. As stated earlier, there were no dwelling houses in it, but only the 'fire-altars'. Thus, if no one was living in this complex, for whom were the 'fire-altars' meant for 'cooking'? It would thus appear that this area was exclusively meant for ritualistic purposes in which the 'fire-altars' played an important part.

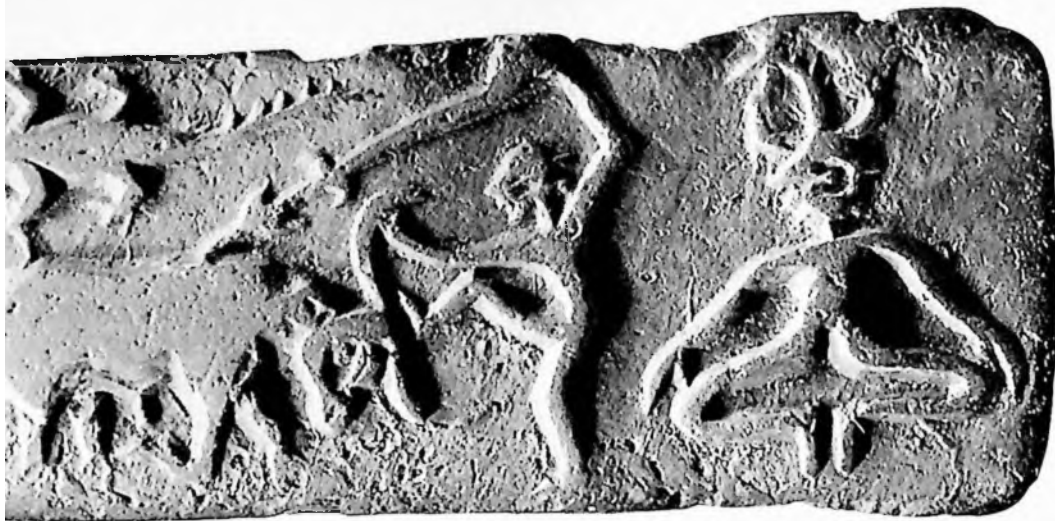
CONCLUDING REMARKS

From the foregoing it would be abundantly clear that the 'fire-altars' were not meant for cooking. At the same time, the presence in them of ash and charcoal does suggest their association with fire. The overall evidence, therefore, suggests that the features called 'fire-altars' did indeed have some kind of function other than that of cooking. Their context, such as the occurrence of seven contiguous examples on a platform in the Citadel, with a fire-container in the front and a well and bathing platform close by, does point to a ritualistic set-up.

In fact, an eminent British archaeologist, the late Professor Raymond Allchin, had no hesitation in accepting this ritualistic association. Says he ('The Legacy of the Indus Civilization', in *Harappan Civilization: A Recent Perspective*, edited by Professor Possehl himself, Second Edition, New Delhi, 1993, p. 388): "These three contexts [referring to the evidence of KLB-1, KLB-2 and KLB-3 respectively] suggest that fire-rituals formed a part of the religious life of the town, at a civic, domestic and popular level." He further adds: "They are highly suggestive of an Indo-Iranian, if not more specifically Indo-Aryan, element in the culture of the period covered by these excavations."

The above-cited statement of Professor Allchin has in fact two parts. In the first, he accepts the ritualistic purpose of the structural features under discussion and, in the second, he associates them with an Indo-Aryan element in the Harappan Civilization. It is quite likely that Professor Possehl may be having some reservations about the second part—and he is quite free to have that—but what prevents him from seeing the ground reality that the features concerned are not cooking hearths but may have had some other purpose, most likely ritualistic. I can only urge: Let not preconceived notions blur our vision!





A P P E N D I X I I I

An Examination of Objections Against the Vedic-Harappan Equation

From time to time objections have been raised against the Vedic-Harappan equation. Put together, these are four: (1) While the Harappan Civilization belongs to the 3rd millennium BCE, the Vedas, according to the estimate of Max Muller, are not earlier than 1200 BCE. (2) Whereas the Harappan Civilization is urban in nature, the culture portrayed in the *Rigveda* is that of nomads. (3) The Vedic people domesticated horse, but there is no evidence of this animal in the Harappan remains. (4) Again, whereas the spoked wheel has been referred to in the Vedas, it is absent from the Harappan Civilization.

Of these four objections, the first one, namely the supposed disparity between the chronological horizons of the Harappan Civilization and the Vedas, has already been discussed in this



book and found to be baseless (pp. 119-22). My views on the other three objections were dealt with in my book, *How Deep are the Roots of Indian Civilization*, 2009, pp. 118-25, and the same are being reprinted here.

WERE THE VEDIC PEOPLE NOMADS?

The Vedic people were no nomads wandering from place to place, but had regular settlements which were even fortified. This would be abundantly clear even from the few quotations that we give below from the *Ṛigveda* itself. For example, RV 7.15.14 runs as follows:

Aidhā Mahī na āyasyanādhrīṣṭo nṛipītaye pūrbhavaḥ śatabhujih.

And, irresistible, be thou a mighty metal fort to us,
With hundred walls for man's defence

Through another verse, RV 10.101.8, the devotee prays that not only should the forts be metal-like strong, but that he should also be provided with many coats of armour, evidently signifying military strength:

*...varma sīvyadhvam bahulā prithūni
puraḥ kṛiyudhvanāyāsīradhrīṣṭā*

...stitch ye [oh gods] the coats of armour, wide and many;
make metal forts, secure from all assailants.

On the economic front too, the Vedic people were quite affluent. They were engaged in both internal as well as overseas trade. This is clearly indicated by the following *Ṛigvedic* verse, 9.33.6:

*Rāyaḥ samudrāṅschaturo asubhyam soma viśvataḥ.
Ā pavaśva sahasraṇaḥ*

O Soma, from every side pour forth four seas filled with
a thousand-fold riches.

In sea-trade, they used large-sized boats which were sometimes provided with a hundred (i.e. a large number of) oars. Says RV 1.116.5:

*anārambhaye tadavīrayethāmanāsthāne agrabhaye samudre
yadaśvīmā īdathurbhujyumnastam śatāritrām nāvamātusthivānsam*



O Asvins, you saved Bhujyu (from drowning) in a deep sea where there was nothing to hold on, by lifting him up in a boat that had a **hundred oars** and sending him to his place. This was indeed a brave act of yours.

Besides using bullock-carts, the Ṛigvedic people plied fast-running chariots, to which were sometimes yoked as many as four horses each, bedecked with pearl ornaments. This would be clear from the following (RV 1.126.4):

*chatvāriṁśad daśarathasya śonāḥ sahasrasyāgre śreyim nayanti
madachyutāḥ kṛṣaṇāvato atyān Kakṣivānta udamṛikṣanta pajrāḥ*

Forty bay horses of the ten cars' master before a thousand lead the long procession.

Feeling in joy Kakṣivān's sons and Pajrā's have grounded the coursers decked with pearly trappings.

In addition to the foregoing, the *Ṛigveda* throws valuable light on the social and political set-up of the times. This is self-evident from the occurrence in it of such terms as *sabhiā* and *saniti* on the one hand and of *sanvrāt*, *rājan*, *rājaka*, etc. on the other. The first two terms clearly refer to assemblies that took vital decisions on matters of public interest. That there did exist these institutions in the Vedic society is clearly borne out by the following verse of the *Ṛigveda* (9.92.6):

*pari sadmeva paśumānti hotā rajā na satyaḥ samitṛiyānaḥ /
somaḥ pūmānaḥ kalaśam ayāsit sīdan mṛigo na mahiṣo vaneṣu //*

As the priest seeks the station rich in cattle, like a true king who goes to great assemblies,
Soma hath sought the pitchers while they cleansed him,
and like a wild buffalo, in the wood hath settled.

In the above-noted verse, there are certain interesting similes, namely that the Soma enters the *kalaśa* (pitcher) just as the king enters the assembly or a wild buffalo enters the forests.

The other three terms, viz. *sanvrāt*, *rājan* and *rājaka*, point to a hierarchy of rulers. In RV 6.27.8, Abhyāvartī Chāyamāna is referred to as a *Sanvrāt*:

*devān Agne rathino viṁśatim gā vadhūmato maghavā mahyam sanvrāt /
Abhyāvartī Chāyamāno dadāti dūṇāśeyam dakṣiṇā pārthavānām //*



Two wagon-teams, with damsels, twenty oxen, O Agni,
Abhyāvartin Chāyamāna,
The liberal Sovran, giveth me. This guerdon of Prithu's
seed is hard to win from others...

In contrast, in RV 8.21.18 Chitra is said to be a *Rājan* while
rulers of a lesser category were known as mere *Rājakas*.

*Chitra id rājā rājaka idanyake yake Sarasvatīmamu /
parjanya iva tatanaddhi vṛṣṭyā sahasramayutā dadat //*

Chitra is King, and only kinglings are the rest, who dwell
beside the Sarasvatī.

He, like Parjanya with his rain, hath spread himself with
thousand, yea, with myriad gifts.

Do such fine distinctions in matters of governance speak of a
nomadic society? And let it be further stressed that these
distinctions were very much real and not imaginary, as some
diehards might think. This would be amply clear from the
following quotation from the *Śatapatha Brāhmaṇa* (V.1.1.12-13):

*Rājā vai Rājasūyeneṣṭvā bhavati, Samrāj Vājapeyena / avaranī hi
rājyaṇi
paranī samrājyaṇi / Kāmayeta vai Rājā Samrāj bhavitum avaranī hi
rājyaṇi
paranī samrājyaṇi / Na Samrāj kāmayeta Rājā bhavitum avaranī hi
rājyaṇi paranī samrājyaṇi /*

By offering the *Rājasūya* he becomes *Rājā* and by the
Vājapeya he becomes *Samrāj*, and the office of *Rājan* is lower
and that of *Samrāj* the higher. A *Rājan* might indeed wish
to become a *Samrāj*, for the office of *Rājan* is lower and of
Samrāj the higher; but the *Samrāj* would not wish to
become a *Rājā* for the office of the *Rājan* is lower, and that
of *Samrāj* the higher.

I am afraid I have overburdened the reader with so many
quotations from the *Ṛigveda* as also one from the *Śatapatha
Brāhmaṇa*, but I thought it was well worthwhile doing so since I
wanted the reader to feel a personal contact with these basic
texts. Anyway, from the foregoing it must have become
abundantly clear that the *Ṛigvedic* people were highly



advanced on most fronts – social, economic and political. Do you think they have to be looked upon as ‘nomads’?

WAS THE HORSE UNKNOWN TO THE HARAPPANS?

But the ingrained apathy to a Harappan-Vedic equation does not end there. There are two more objections still remain to be addressed. First, it has been argued that during the Vedic times the horse was a well-known animal, but the Harappan Civilization knew it not. Second, whereas the Vedic chariots were provided with spoked wheels, there were no spoked wheels during the Harappan times. If the opponents of the Harappan-Vedic equation adopt an ostrich-like attitude and do not look up to see the light thrown by recent excavations at a number of Harappan sites, whose fault is it ? Anyway, for the sake of the reader, I briefly summarize the evidence on these two issues.

In respect of the absence of the horse from the Harappan Civilization, a funny argument has often been advanced, namely that this animal is not depicted on the Harappan seals whereas many other animals are. But why should we assume that the Harappans were out to produce a kind of zoo on their seals? The animals depicted thereon may have had some specific function to perform, such as being the insignia of the seal-owner and so on. This apart, why do these people not doubt the presence of the camel in the Harappan context, when this animal is also absent from the seals?

Anyway, let us move on to the positive evidence regarding the presence of the horse in the Harappan Civilization. In the report on his excavations at Mohenjo-daro, E.J.H. Mackay stated (1938, Vol. I, p. 289; Vol. II, pl. LXXVIII, no. 11):

Perhaps the most interesting of the model animals is the one that I personally take to represent a horse.’ Confirming this identification, Wheeler (1968: 92) observed: ‘One terracotta, from a late level of Mohenjo-daro, seems to represent a horse, reminding us that a jaw-bone of a horse is also recorded from the same site, and that the horse was known at a considerably earlier period in Baluchistan.

But much more evidence has come to light during the past five decades. For example, the Mature Harappan strata of Lothal



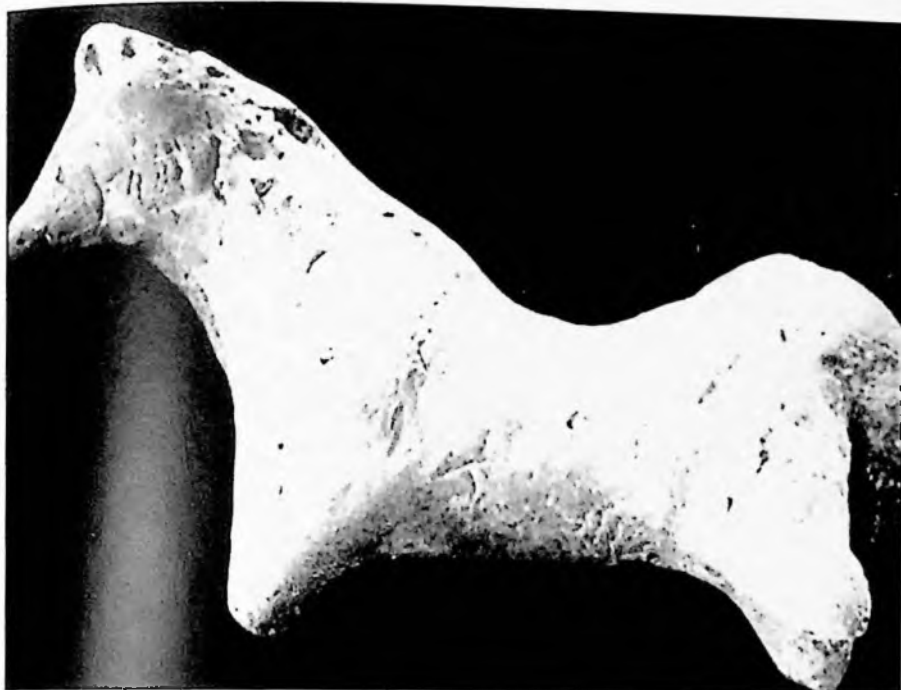


Fig. Apx. III.1. Lothal: Terracotta horse, Stage IV.

in Gujarat have yielded a terracotta figure of the horse (Fig. Apx. III.1). And this is not the only evidence regarding the presence of the horse at Lothal. Reporting on the faunal remains from this site, two experts, namely Bhola Nath and G.V. Sreenivas Rao, state (in S.R. Rao 1985: 641):

The single tooth of the horse referred to above indicates the presence of the horse at Lothal during the Harappan period. The tooth from Lothal resembles closely with that of the modern horse and has the pre-callabian (a minute fold near the base of the spur or protocone) which is a well distinguishable character of the cheek teeth of the horse.

From Surkotada, another Harappan site in Gujarat, come a large number of bones of the horse (A.K. Sharma in Joshi 1990: 381). These were further examined by Professor Sandor Bokonyi, a renowned archaeozoologist and the then Director of the Archaeological Institute, Budapest, Hungary. And this is what he had to say:

Through a thorough study of the equid remains of the protohistoric settlement of Surkotada Kutch, excavated under



the direction of Dr. J.P. Joshi, I can state the following: The occurrence of true horse (*Equus Caballus* L.) was evidenced by the enamel pattern of the upper and lower cheek and teeth and by the size and form of the incisors and phalanges (toe bones). Since no wild horses lived in India in post-Pleistocene times, the domestic nature of the Surkotada horse is undoubtful. This is also supported by an inter-maxilla fragment whose incisor tooth shows clear signs of crib-biting, a bad habit only existing among domestic horses which are not extensively used for war.

Giving measurements, other details and photographs of the faunal remains in a paper published subsequently, Bokonyi (1997: 300) confirmed his findings: 'All in all, the evidence enumerated above undoubtedly raises the possibility of the occurrence of domesticated horses in the mature phase of the Harappa Culture, at the end of the 3rd millennium BC.'

However, those who have a mind-set to the contrary are not inclined to accept Bikonyi's well argued case. Thus, referring to a discussion that Meadow and Patel had with Bikonyi before the latter's death, they write (1997, op. cit.: 308): 'We went through each point that we had raised and in some cases agreed to disagree. He (i.e. Bikonyi) remained firmly convinced that there are the bones of true horse (*Equus caballus*) in the Surkotada collection, and we remain skeptical.' While Meadow and Patel have every right to 'remain skeptical', it needs no emphasis that Bikonyi was an internationally acknowledged specialist on the anatomy of horses.

Anyway, Rupnagar (formerly known as Ropar) in Punjab and Kalibangan in Rajasthan have also given evidence of the presence of horse in Harappan context. At the latter site have been found an upper molar, a fragment of a shaft of distal end of femur and the distal end of left humerus (Sharma, A.K. 1993).

Though no horse bones have been reported from the recent excavation at Harappa, an earlier faunal collection from that site was examined by Bholanath, an expert of the Zoological Survey of India, who categorically stated that it did include the remains of the horse (1959).

From the foregoing it is clear that the Harappans did use the horse, although one would certainly welcome more and more evidence. As I have said elsewhere (Lal 1998: 109-12), the truant horse has cleared the hurdles!





Fig. Apx. III.2. Rakhigarhi: Terracotta wheel. The painted lines radiating from the central hub and reaching the circumference clearly represent the spokes of the wheel, Stage IV.

WAS THE SPOKED WHEEL UNKNOWN TO THE HARAPPANS?

Equally untrue is the allegation that the Harappans did not know the spoked wheel. Although the hot and humid climate of our country does not permit the survival of wooden examples, terracotta models of the wheel clearly show that these were spoked. To substantiate this, we reproduce here one example each from the well-known Harappan sites of Rakhigarhi and Banawali (Figs. Apx. III. 2 and 3 respectively). In the former, one sees clearly the painted spokes radiating from the central hub to the rim. The example from Banawali depicts the spokes in low relief. Perhaps it may not be out of place to add that this latter technique continued to be used even during the early historical times.

From what has been stated in the preceding paragraphs, it is abundantly clear that all the objections against a Harappan-Vedic equation are baseless.

Isn't it time to give up pre-conceived notions?



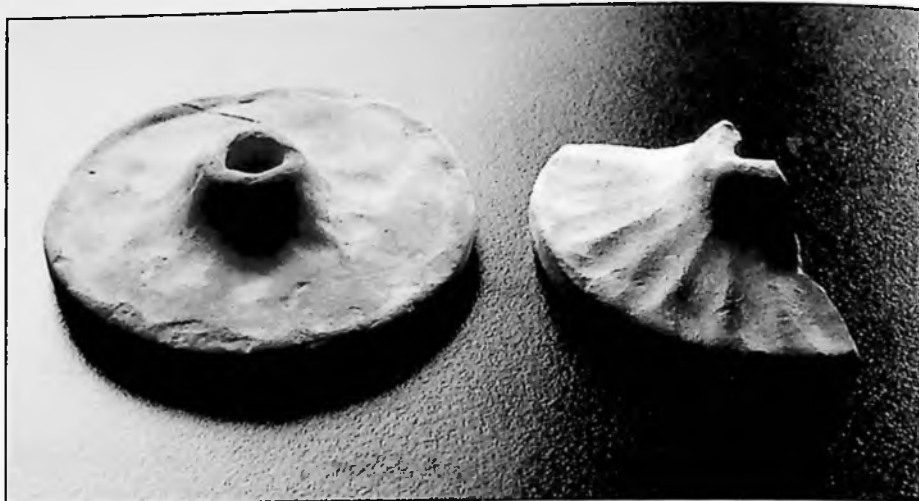


Fig. Apx. III.3. Banawali: Terracotta wheels showing the spokes in low relief. The specimen on the left is worn out but the spokes may still be seen. The specimen on the right, though broken, shows the spokes very clearly. Stage IV.

ADDENDA

I would like to add the following to the foregoing Appendix:

‘No horse, no Aryans’, has become a favourite slogan. Consequently, those who are strongly opposed to a Harappan-Vedic equation make all possible efforts to deny the presence of this animal in the Harappan remains. This must have become clear from the Bokonyi-Meadow debate referred to in the preceding pages.

Here I would like to ask those advocating the absence of the horse in the Harappan context two simple questions. One, why must they doubt the identification of the remains of the horse at Lothal by Bholanath (a distinguished zoologist) if they never doubted his identification of the bones of the same animal in the case of Hastināpura (in Lal 1954 & 55)? Do they hold that he was a competent zoologist when he examined the animal bones from Hastināpura in 1954-55 and suddenly became incompetent when he examined the animal remains from Lothal in 1985 (in S.R. Rao 1985)?

Secondly, some of these doubting Thomases argue that the number of bones from Lothal, Surkotada, etc. is too little to establish the presence of that animal in the Harappan context. I have gone through the published evidence relating to the faunal



remains from a large number of sites in Harappan as well as post-Harappan contexts and find that the evidence for the presence of the horse in the post-Harappan sites is as meagre as that in the Harappan sites. In support of my statement, I cite below in some detail the faunal evidence from two sites, both of which are post-Harappan but are located in different parts of the country and have quite different cultural associations. These are Hastināpura in the upper Gaṅgā valley in Uttar Pradesh and Inamgaon, situated on the bank of the Ghod, which forms a part of the Krishna system, in Maharashtra.

The excavation at Hastināpura brought to light five periods of occupation with a break in between them all. From bottom upwards, these are as follows:

- I. Characterized by Ochre Colour Ware and assignable to somewhere in the first half of the 2nd millennium BCE.
- II. Characterized by the Painted Grey Ware and datable to ca. 1200-800 BCE.
- III. Characterized by the Northern Black Polished Ware and assignable to 6th-3rd century BCE.
- IV. Śuṅga-Kushan Period, circa 2nd cent. BCE-3rd cent. CE.
- V. Medieval Period, 11th-15th cent. CE.

The faunal remains from the site were examined and reported by Bhola Nath (in Lal 1954 & 55, pp. 107 ff.). The deposit of Period I was very flimsy and yielded no remains other than a few fragments of pottery. The animal remains from the other periods were as follows:

Period II: *Equus caballus* Linn. (from a late level); *Bos (bubalus) bubalis*; *Bos indicus*; *Ovis vignei*; and *Sus Cristatus*.

Period III: *Lissemys punctata, forma typica*, *Chitra indica*; *Trionyx gangeticus*; *Elephas maximus*; *Bos (Bubalus) bubalis*; *Bos indicus*; *Ovis vignei*; *Capra hircus aegagrus*; and *Sus cristatus*.

Period IV: *Bos (Bubalus) bubalis*; *Bos indicus*; *Ovis vignei*; and *Elephas maximus*.

Period V. *Bos indicus* and *Capra hircus aegagrus*.

A closer look at the foregoing data is quite surprising since it shows that *Equus caballus* Linn. (the horse) occurred only in Period II. Are we then to take that the horse disappeared thereafter? Certainly not. The lesson to learn is that 'Absence of evidence is no evidence of absence.'



But here is something no less important. Bhola Nath thereafter gives the numbers of specimens of each category: 148 specimens of *Bos indicus* Linn. (Domestic humped cattle); 12 specimens of *Bos (Bubalus) bubalis* Linn. (buffalo); 20 specimens of *Ovis vignei* Blyth (sheep); **but only 3 specimens of *Equus caballus* Linn.** Are we then to ignore the presence of the horse because the number is so small? I am sure you wouldn't do that. 'Presence is presence, whatever the number.'

But have we ever tried to understand this marked contrast in these numbers? Perhaps not. And here, to my mind, is the explanation.

After giving a detailed description of the individual bones of *Bos indicus* Linn. (domestic humped cattle), Bholanath states: "Out of one hundred and forty-eight fragments of bones examined, twenty fragments are charred and twenty-two bear on them definite signs of cuts by sharp instruments which tend to prove that the people probably slaughtered them for food."

A similar statement is made by him in respect of *Ovis vignei* Blyth (the domestic sheep): "Of the twenty fragments three fragments bear definite marks of cuts by sharp instruments, and one fragment of the bone is charred, pointing out that the people most probably slaughtered them for food."

The fact that cattle and sheep were slaughtered for food explains why the bones of these animals occurred in a large number in the domestic debris. That was not the case with the horse. Hence the very small number of its bones.

We may now pass on to the situation at Inamgaon. Over here, from bottom upwards, three Cultural Periods were identified (Dhavalikar, Sankalia and Ansari 1988):

Period I: Malwa Culture, ca. 1600-1400 BCE.

Period II: Early Jorwe Culture, ca. 1400-1000 BCE.

Period III. Late Jorwe Culture, ca. 1000-700 BCE.

The animal remains from this site were reported by P.K. Thomas (in Dhavalikar et al., op. cit., pp. 823-961). In Table 15.19 (p. 882), he gives the number of animals in the three Cultural Periods at the site. Given here is an excerpt from the same.



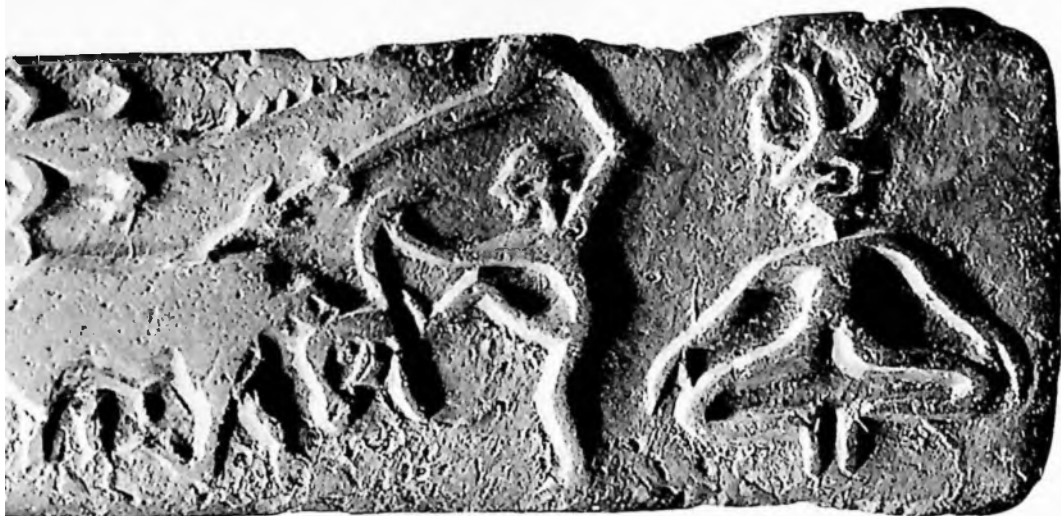
	Late Jorwe Period	Early Jorwe Period	Malwa Period
Cattle & buffalo (<i>Bos & Bubalus</i>)	129	223	126
Sheep & Goat (<i>Ovis/Capra</i>)	376	97	75
Horse (<i>Equus caballus</i>)	4	—	—

Thomas also refers to cut and charring marks on bones of cattle, goat and sheep, which means that these animals formed a part of the food.

A close look at the Table given above shows that the horse did not occur in the Malwa and Early Jorwe Periods, but only in Late Jorwe. And in that Period too the number of its bones was only 4 as against 129 of cattle and buffalo and 376 of sheep and goat. **Are we then to write off the presence of the horse at Inamgaon simply because the number of bones is very meager? I am sure you wouldn't.**

Why then do we let the votaries of 'No horse, no Aryans' cry out that there was no horse in the Harappan context, just because the number of bones of that animal in the faunal remains at various Harappan sites is small? **The truth ought not to fall a victim to our pre-conceived notions.**





A P P E N D I X IV*

The Continuity of Indian Civilization*

And now the final question: Did this Indus-Sarasvatī Civilization die out or has it left any impress on Indian civilization?

Writing in 1947, Mortimer Wheeler asserted as follows:

What destroyed this firmly-settled civilization? Climatic, economic, political deterioration may have weakened it, but its **ultimate extinction** is more likely to have been completed by deliberate and large-scale destruction. It may be no mere chance that at a late period of Mohenjo-daro men, women and children appear to have been massacred there. On circumstantial evidence Indra stands accused. (Emphasis added.)

* This constituted a part of the Inaugural Address, which I delivered at the International Seminar on 'The Sarasvatī River and Hindu Civilization', held at India International Centre, New Delhi, October, 24-26, 2008.





Fig. Apx. IV.1. Air Marshal T.M. Asthana and his wife Kiran. Mark the streak of vermilion (*sindūra*) in the medial partition-line of the hair (*māṅga*) of the lady, which is a sign of her marital status.

A detailed analysis of Wheeler's statement has been made by many scholars (e.g., Dales 1964; Lal 2002: 69-70) and it is not proposed to cover the ground all over again. In summary, there is no case for an 'Aryan Invasion' nor for the 'extinction' of the Indus-Sarasvatī Civilization. Further, as fully explained in my Inaugural Address delivered at the 19th International Conference on South Asian Archaeology, held at University of Bologna, Ravenna, Italy on July 2-6, 2007, there is also no case for an 'Aryan Immigration' (supposedly from the Bactria-Margiana region).

There is no doubt that the Indus-Sarasvatī Civilization did not continue ad infinitum in its 'Mature' form; and this is most normal to happen to any civilization. With the over-exploitation of agricultural land, change of climate, the drying up of the Sarasvatī river, sharp fall in internal as well as external trade, all the trappings of urbanism, such as meticulous town-planning, weights and measures, seals and sealings, the system of writing, etc. began to disappear from the scene. The cities made way for





Fig. Apx. IV.2. Nausharo (Pakistan). A painted terracotta female figure, ca. 2,800-2,600 BCE. The yellow colour on the ornaments suggests that these were made of gold. The hair is black, while the red colour on the line of partition of the hair indicates the use of vermillion.



Fig. Apx. IV.3. Mohenjo-daro: The famous bronze statuette of a 'dancing girl', wearing spiralled bangles on the upper left arm. Mature Harappan.

villages which, as I have stated elsewhere, must have whispered to one another: 'C'ties may come and c'ties may go, but we go on forever'. But in this urban-to-rural reversal, the down-to-earth way of life still continued unhindered. I have given a detailed exposition of this remarkable phenomenon in my 2002-book, *The Sarasvatī Flows On: The Continuity of Indian Culture*, and it is not proposed here to take much of the precious time of the audience, dwelling in detail on the subject. However, to put it succinctly, there is no walk of life in which the cultural continuity is not reflected, whether it be make-up by ladies, agricultural activities, food habits, games, bedside stories narrated by grandmothers to the children, religious worship and so on. To save time, I shall straightaway pass on to just a few photographs/drawings to illustrate my point.

Thus, while Fig. Apx. IV.1 shows a modern lady (Shrimati Kiran Asthana, wife of Air Marshal T.M. Asthana) with *sindūra*





Fig. Apx. IV.4. A lady wearing spiralled bangles.



Fig. Apx. IV.5. Mohenjo-daro: Gold cone. Mature Harappan.



Fig. Apx. IV.6. A newly married lady, on the right, wearing a conical ornament on the head (covered by the *dupatta*). She also wears bangles all over her arms.





Fig. Apx. IV.7. Harappa: A three-in-one toiletry gadget, copper. Mature Harappan.



Fig. Apx. IV.8. A modern three-in-one toiletry gadget.

(vermilion) in her *māṅga* (central partition-line of the hair on the head) – a sign of her marital status, Fig. Apx. IV.2 shows a terracotta figurine from Nausharo, datable to 2800-2600 BCE, with the same feature. In the case of the terracotta, the vermilion is shown in red color, the hair is done in black and the ornaments in yellow, suggesting that these were made of gold. Fig. Apx. IV.3 shows the famous bronze damsel from the Mature Harappan levels of Mohenjo-daro. On her left arm she wears a series of bangles – a feature still to be seen amongst the women of Rajasthan, Haryana and elsewhere (Fig. Apx. IV.4). Likewise, the gold cone discovered at Mohenjo-daro (Fig. Apx. IV.5), called *chauk* in Hindi, is still used by ladies in Haryana and Rajasthan (Fig. Apx. IV.6). Even cosmetic gadgetry is no exception. Thus, while in Fig. Apx. IV.7 may be seen a three-in-one gadgets of copper from Harappa, Fig. Apx. IV. 8 shows a modern example of the same. Of the three objects, the pointed one is used for cleaning the inter-spaces between the teeth; the cup-ended tool



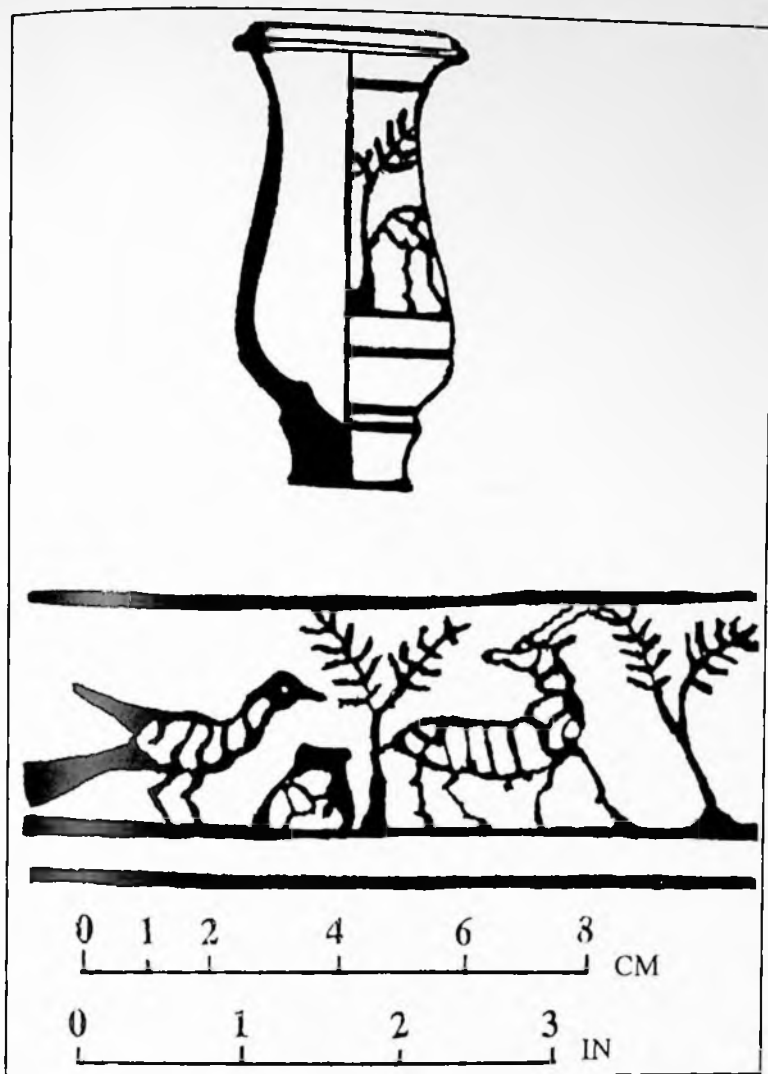


Fig. Apx. IV.9. Lothal: A vase, the painting on which most probably depicts the folk-tale of 'The Thirsty Crow'. Mature Harappan.

is used for taking wax out from the ears; and the tweezers for picking up tiny hair that often grow in old age on the inner side of the eyelids.

Villagers in Rajasthan and Haryana even today plough their agricultural fields in the same style as did their forefathers 5,000 years ago. Figure 6.24 (above) illustrates an Early Harappan field, discovered at Kalibangan and ascribable to circa 2800 BCE.



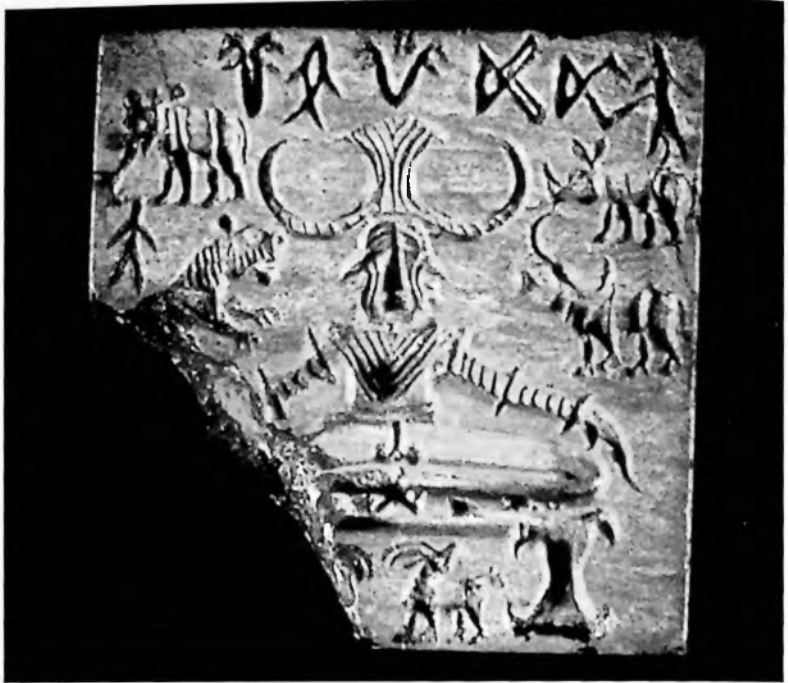


Fig. Apx. IV.10. Mohenjo-daro: Impression of a seal depicting a seated figure surrounded by animals, believed to be Śiva in his aspect of Paśupati (Lord of animals). Mature Harappan.



Fig. Apx. IV.11. Kalibangan: Terracotta *linga-cum-yoni*. Stage IV (Mature Harappan).





Fig. Apx. IV.12. *Śivaliṅga-cum-yoni* in a modern temple. From the overhead pitcher water-drops keep on dripping on the *liṅga*.





Fig. Apx. IV.13. Harappa: Terracotta tablet, depicting the Śiva-like seated figure (right) and a person attempting to kill a buffalo, perhaps as sacrifice. Mature Harappan.

It has two sets of furrows, cutting each other at right angles. Of these, the ones with a much greater intermediary distance (1.9 m) run north-south, while the others with a much lesser distance (30 cm) run east-west. It is surprising, yet true, that the same pattern is followed even today by the peasants (Fig. 6.25, above).

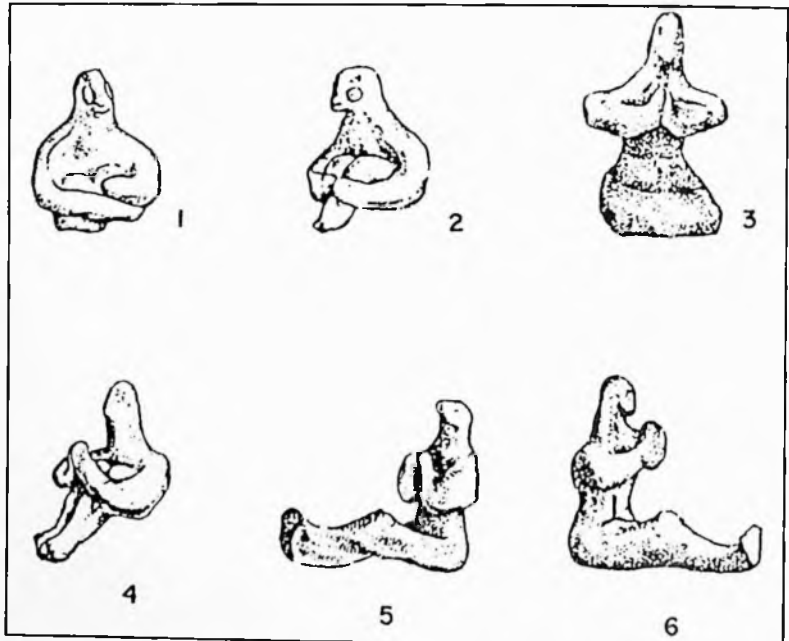


Fig. Apx. IV.14. Terracotta figures in yogic āsanās. 1-4, from Harappa; 5-6, from Mohenjo-daro. Mature Harappan.





Fig. Apx. IV.15. Mohenjo-daro: Limestone statue of a 'priest'. The half-closed eyes are indicative of *dhyana-mudrā* (meditative pose). Mature Harappan.

Figure 6.26 (above) shows the kind of crops sown in these respective furrows—mustard in the long-distance ones and gram in the others. It is most likely that the Harappans also did the same. Continuing with the rural scenario, we find that the bullock-carts of today are built on the same pattern as were the Harappan ones. But that is not all. At Harappa were discovered





Fig. Apx. IV.16. A terracotta figure greeting with *Namaste*. Mature Harappan.

cart-tracks, beneath Cemetery H and thus ascribable to the late 3rd millennium BCE. It is astonishing, yet once again true, that the gauge computed from these tracks is exactly the same as that in the case of modern Sindhi carts!

Grandmothers often take the grandchildren to their beds and narrate some fairy tales in order put them to sleep. The paintings discovered on the pots at Lothal, the well-known Harappan site in Gujarat, bring out some of these stories and here we shall draw attention to one. Figure Apx. IV.9 shows, from the left, a crow, a pitcher, a tree, a deer and again a tree. The story depicted is a well-known one, viz. that of 'The Thirsty Crow'. According to it, briefly, a thirsty deer came across a



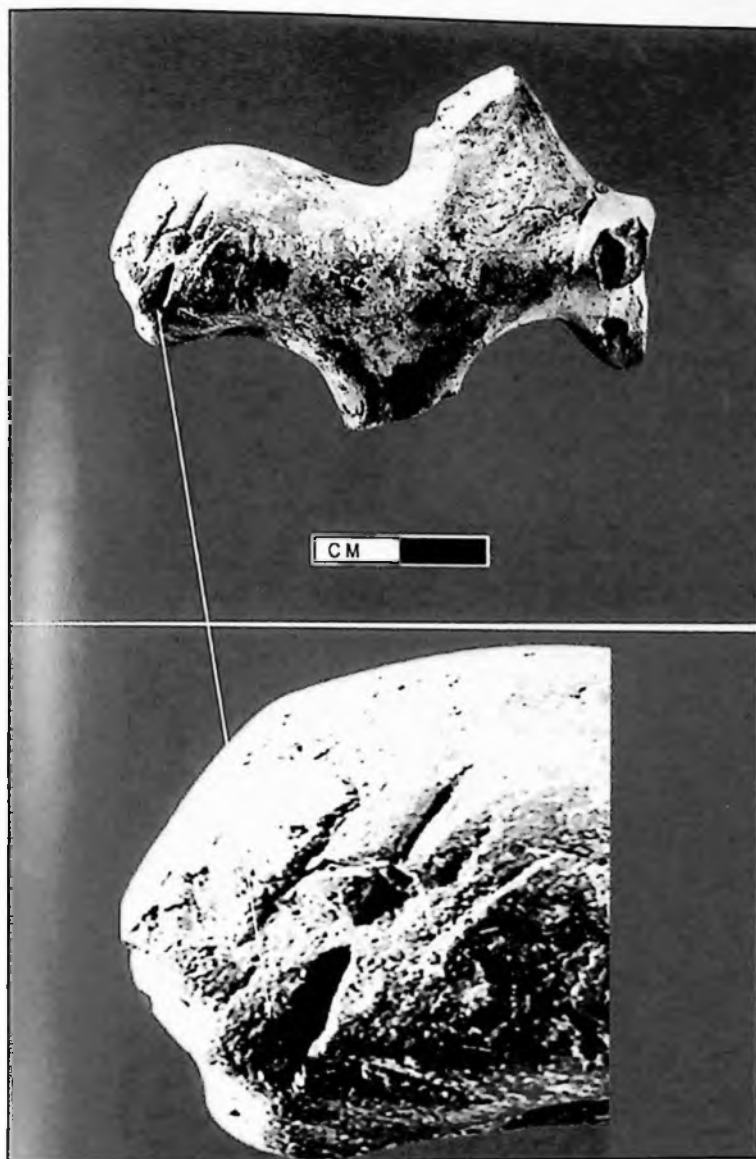


Fig. Apx. IV.17. Dhalewan: Terracotta figure of a bull engraved with a *trisula* (trident)-mark on the hip. Stage IV (Mature Harappan).

pitcher with some water in it. He tried to drink water from it, but his long horns did not permit him to put his head inside it. Disappointed, he was about to leave. Just then, a thirsty crow appeared on the scene. Even on finding that the water inside





Fig. Apx. IV.18. Śiva holding a *trishula* (trident).

the pitcher was at a low level, he did not lose courage. He picked up tiny pebbles from nearby and dropped them into the pitcher. As the level of the water rose, he drank it to his content. The painting shows the crow just withdrawing his beak from the pitcher and the bewildered deer looking back at the former.

Religion is again something that gets deeply ingrained in human psyche and its elements continue generation after generation. We all know about the depiction of a figure on a seal from Mohenjo-daro, which has been identified with Śiva in



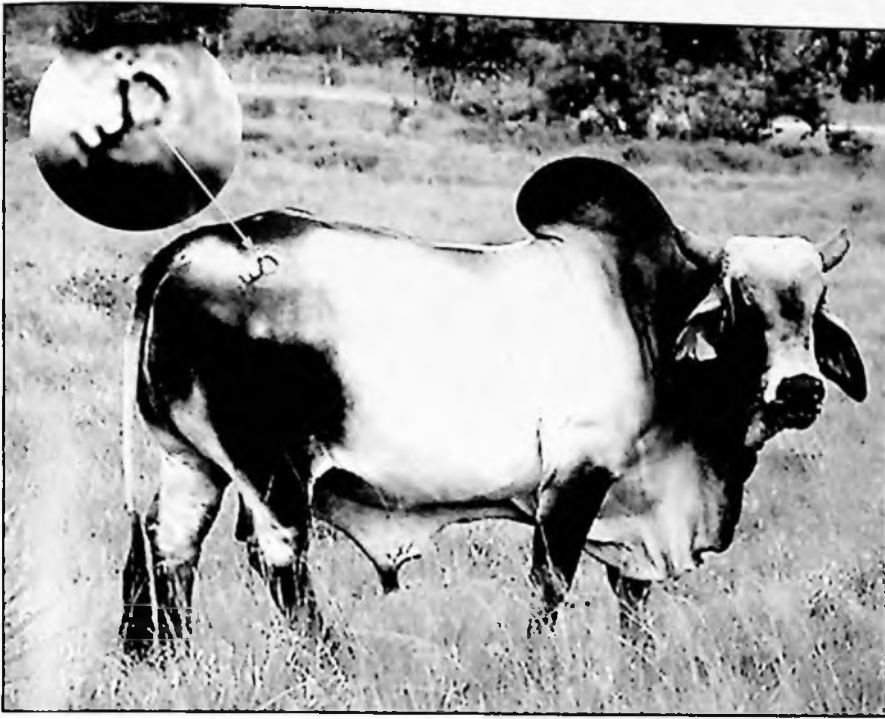


Fig. Apx. IV.19. A bull branded on the hip with a key-mark.

the form of Paśupati (Fig. Apx. IV.10). But the discovery of a terracotta *liṅga-cum-yoni* from Stage IV (Harappan) levels at Kalibangan (Fig. Apx. IV.11) re-confirms the antiquity of Śaivism. Here we also produce a photograph from a modern Śaivite temple, showing the *liṅga-cum-yoni*, over which is placed on a tripod a pot from the pierced bottom of which water keeps on dripping on the *liṅga-cum-yoni* (Fig. Apx. IV.12). On a terracotta tablet, found at Harappa, is depicted a person piercing a buffalo with a harpoon-ended long rod, evidently as a sacrificial offering to the Śiva-like deity seated on the right (Fig. Apx. IV.13) The practice of sacrificing a buffalo before Śiva is still prevalent in parts of Himachal Pradesh.

Yogic *āsanas* which, of late, have become a craze not only in India but across the world, go back to the Harappan times. Figure Apx. IV.14 shows various poses of the *āsanas*, portrayed through Harappan terracottas. And capping it all, there is the





Fig. Apx. IV.18. Śiva holding a *trishūla* (trident).

the pitcher was at a low level, he did not lose courage. He picked up tiny pebbles from nearby and dropped them into the pitcher. As the level of the water rose, he drank it to his content. The painting shows the crow just withdrawing his beak from the pitcher and the bewildered deer looking back at the former.

Religion is again something that gets deeply ingrained in human psyche and its elements continue generation after generation. We all know about the depiction of a figure on a seal from Mohenjo-daro, which has been identified with Śiva in

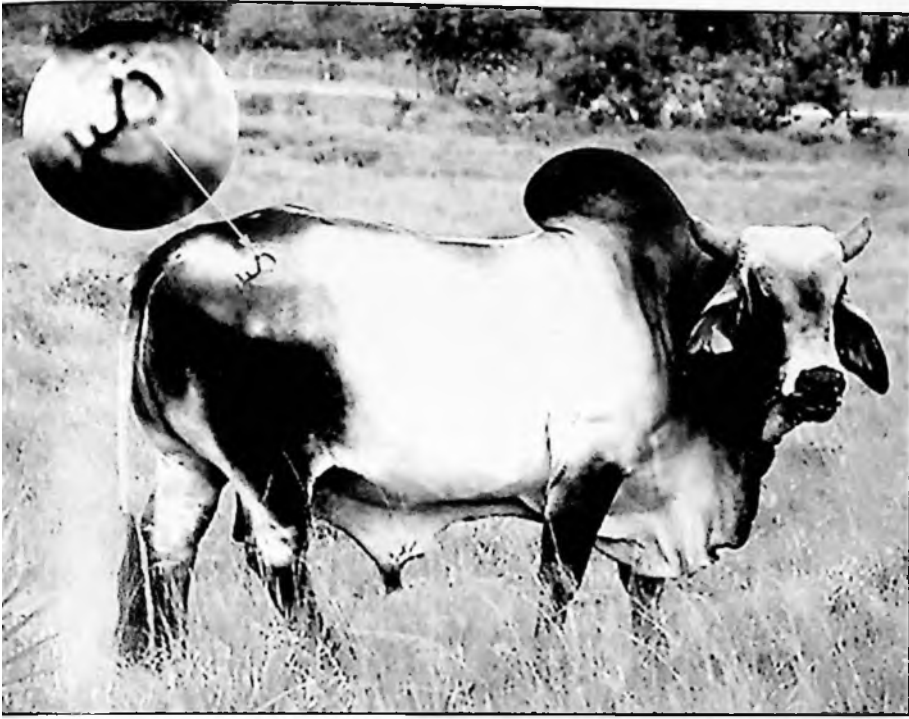


Fig. Apx. IV.19. A bull branded on the hip with a key-mark.

the form of Paśupati (Fig. Apx. IV.10). But the discovery of a terracotta *liṅga-cum-yoni* from Stage IV (Harappan) levels at Kalibangan (Fig. Apx. IV.11) re-confirms the antiquity of Śaivism. Here we also produce a photograph from a modern Śaivite temple, showing the *liṅga-cum-yoni*, over which is placed on a tripod a pot from the pierced bottom of which water keeps on dripping on the *liṅga-cum-yoni* (Fig. Apx. IV.12). On a terracotta tablet, found at Harappa, is depicted a person piercing a buffalo with a harpoon-ended long rod, evidently as a sacrificial offering to the Śiva-like deity seated on the right (Fig. Apx. IV.13) The practice of sacrificing a buffalo before Śiva is still prevalent in parts of Himachal Pradesh.

Yogic *āsanas* which, of late, have become a craze not only in India but across the world, go back to the Harappan times. Figure Apx. IV.14 shows various poses of the *āsanas*, portrayed through Harappan terracottas. And capping it all, there is the



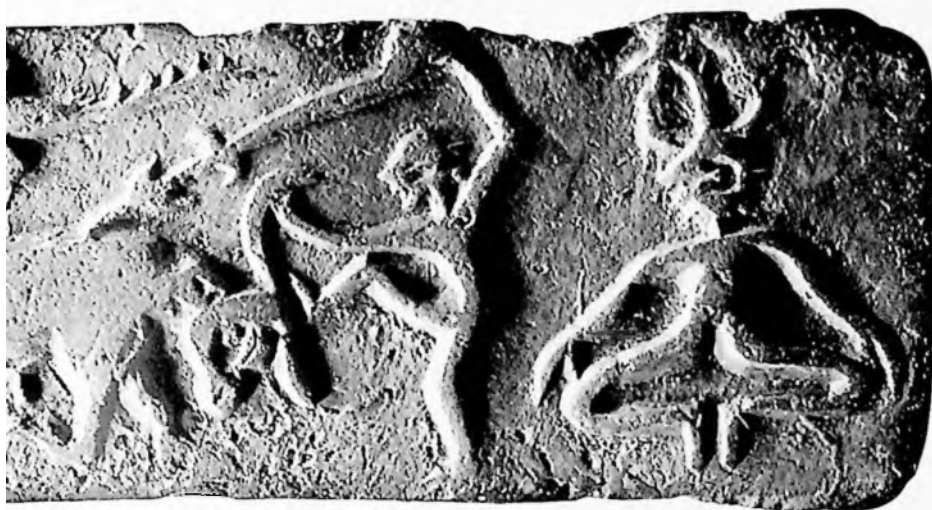
famous limestone figure of a 'priest' in *dhyāna-mudrā* (meditative pose, Fig. Apx. IV.15).

And finally here is a terracotta figure from Harappa (Fig. Apx. IV.16), greeting you and me with *namaste* in the typical Indian style!

ADDENDA

Recent excavations at Dhalewan by Madhu Bala (report in press) have brought to light a very interesting terracotta figure of a bull from the Harappan levels (Fig. Apx. IV.17). On its hip is engraved a *triśūla* (trident). We all know that the *triśūla* is an *āyudha* (weapon) held by Śiva (Fig. Apx. IV.18). We already had a seal from Mohenjo-daro depicting Śiva (above, Fig. Apx. IV.10). The depiction of a *triśūla* re-confirms the presence of the Śiva cult during the Harappan times.

The incision of the *triśūla* on the hip of the bull is significant in yet another way. It shows that the present-day practice of branding animals (Fig. Apx. IV.19) is as old as the Harappan times.



Bibliography

- Aurobindo, Shri. 1971. *The Secret of the Veda*. Pondicherry: Shri Aurobindo Ashram.
- Bhattacharya-Sahu, Nandini. 2012. Excavations at Bhirrana 2003-06, in *Report on the International Seminar on How Deep are the Roots of Indian Civilization*, held in New Delhi in November 2010, published by Draupadi Trust, New Delhi, pp. 235-39.
- Bholanath. 1959. Remains of the Horse.... From Prehistoric Site of Harappa (West Pakistan), *Proceedings of First All-India Congress of Zoologist*, Pt. 2, 1959, pp. 1-14.
- Bisht, R.S. 1982. Excavations at Banawali: 1974-77. In G.L. Possehl (ed.), *Harappan Civilization: A Contemporary Perspective*, pp. 113-24. New Delhi: Oxford and IBH Publishing Co.
- . 1987. Further Excavation at Banawali: 1983-84. In B.M. Pande and B.D. Chattopadhyaya (eds.), *Archaeology and History: Essays in Memory of Shri A. Ghosh*, Vol. 1, pp. 135-56. Delhi: Agam Kala Prakashan.



- Bokonyi, S. 1997. Horse Remains from the Prehistoric Site of Surkotada, Kutch, Late Third Millennium BC. *South Asian Archaeology*, 13:297-307.
- Bryant, Edwin. 2001. *The Quest for the Origins of Vedic Culture: The Indo-Aryan Migration Debate*. Oxford: University Press.
- Burrow, T. 1955 (reprint). *The Sanskrit Language*. Faber and Faber.
- Caland, W. 1931 (reprinted 1982). *Pañchaviṃśā Brāhmaṇa*. Calcutta: Asiatic Society. Cambridge History of India, Vol. I
- Dales, G.F. 1964. The Mythical Massacre at Mohenjo-daro. *Expedition*, 6(3): 36-43.
- Danino, Michel. 2010. *The Lost River: On the Trail of the Sarasvatī*. Penguin Books.
- Demoule, Jean-Paul. 1980. Les Indo-Européens: Ont-ils existé? *L'Histoire* 28:108-20.
- Dhavalikar, M.K., et al. 1988. *Excavations at Inamgaon*, 2 vols. Pune: Deccan College Post-graduate and Research Institute.
- Flam, Louis. 1999. The Prehistoric Indus River System and the Indus Civilization in Sindh. *Man and Environment*, Vol. XXIV, No. 2, pp. 35-69.
- Gamkrelidze, Thomas V. and Vjacelav V. Ivanov. 1995. *The Indo-European and the Indo-Europeans*. Trends in Linguistic Studies and Monographs 80. Berlin: Mouton and Gruyter.
- Gimbutas, M. 1966. Proto-Indo-European Culture; The Kurgan Culture during the Fifth, Fourth and Third Millennia BC. In George Cordona et al. (eds.), *Indo-European and Indo-Europeans*, pp. 155-197. Philadelphia: University of Pennsylvania Press.
- . 1997. *The Kurgan Culture and the Indo-Europeanization of Europe*. Eds. Miriam Dexter and Karlene Jones-Bley. Washington, D.C.: Institute for the Study of Man.
- Griffith, R.T.H. 1995 (reprint). *The Hymns of the R̥gveda*, 2 vols. Delhi: Low Price Publications.
- Habib, Irfan and Faiz Habib. 1991-92. The Historical Geography of India, 1880-800 BC. *Proceedings, Indian History Congress: 52nd Session*, pp. 72-97.
- Hemphill, B.E., J.R. Lukacs and K.A.R. Kennedy. 1991. Biological Adaptations and Affinities of Bronze Age Harappans. In R.H. Meadow (ed.), *Harappa Excavations 1986-1990*, pp. 463-535.
- Jones, William. 1788. The Third Anniversary Discourse. *Asiatic Researches*, Vol. I, pp. 415-31.
- Joshi, J.P. 1990. *Excavation at Surkotada 1971-72 and Exploration in Kutch*. New Delhi: Archaeological Survey of India.
- Kazanas, Nicholas. 2009. *Indo-Aryan Origins and Other Vedic Issues*. New Delhi: Aditya Prakashan.
- Kenoyer, J.M. 1991. Urban Process in the Indus Tradition: A Preliminary Model from Harappa. In R.H. Meadow (ed.), *Harappa Excavations 1986-90*, pp. 29-60. Madison, Wisconsin: Prehistory Press.



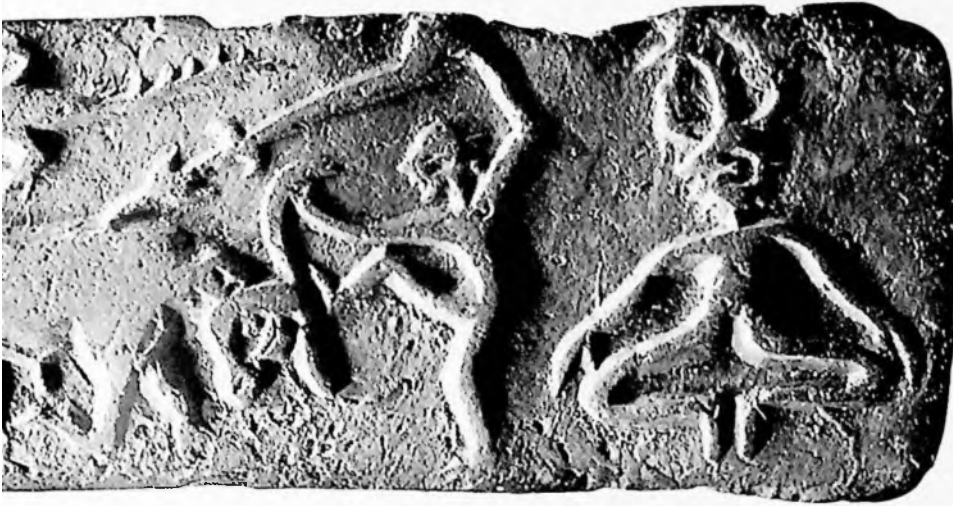
- . 1998. *Ancient Cities of the Indus Civilization*. Karachi: Oxford University Press and American Institute of Pakistan Studies.
- Khatri, J.S. and M. Acharya. 1995. Kunal: A New Indus-Sarasvati Site. *Purātattva*, 25: 84-86.
- Krell, Kathrin S. 1998. Gimbutas' Kurgan-PIE Homeland Hypothesis. A Linguistic Critique. In Roger Blench and Mathew Spriggs (eds.), *Archaeology and Language*, II: 267-89. London: Routledge.
- Lal, B.B. 1949. Śiśupālgarh 1948: An Early Historical Fort in Eastern India. *Ancient India*, No. 5: 62-105.
- . 1954 and 1955. Excavations at Hastināpura and Other Explorations in the Upper Gaṅgā and Sutlej Basins 1950-52. *Ancient India*, Nos. 10 and 11.
- . 1970. Some Observations on the Harappan Script. In L. Chandra et al. (eds.), *India's Contribution to World Thought and Culture*, pp. 189-202. Madras.
- . 1974. *Has the Indus Script been Deciphered? An Assessment of Two Latest Claims*. Shimla: Indian Institute of Advanced Study.
- . 1979. Kalibangan and the Indus Civilization. In D.P. Agrawal and D.K. Chakrabarti (eds.), *Essays in Indian Protohistory*, pp. 65-97. New Delhi: B.R. Publishing Corporation.
- . 1983. Reading the Indus Script. *Indian and Foreign Review*, 20 (13): 33-36.
- . 1992. Antecedents of the Signs Used in the Indus Script: A Discussion. In G.L. Possehl (ed.), *South Asian Archaeology Studies*, pp. 45-55. New Delhi: Oxford and IBH Publishing Co.
- . 1997. *The Earliest Civilization of South Asia*. New Delhi: Aryan Books International.
- . 1998. *India 1947-1997: New Light on the Indus Civilization*. New Delhi: Aryan Books International.
- . 2002. *The Sarasvati Flows On: The Continuity of Indian Culture*. New Delhi: Aryan Books International.
- . 2005a. *The Homeland of the Aryans: Evidence of Rigvedic Flora and Fauna and Archaeology*. New Delhi: Aryan Books International.
- . 2005b. Aryan Invasion of India: Perpetuation of a Myth. In E.F. Bryant and L. Patton (eds.), *The Indo-Aryan Controversy: Evidence and Inference in Indian History*. London: Routledge.
- Lal, B.B., J.P. Joshi et al. 2003. *Excavations at Kalibangan: The Early Harappans*. New Delhi: Archaeological Survey of India.
- . (in press). *Excavations at Kalibangan: The Mature Harappans*. New Delhi: Archaeological Survey of India.
- Lamberg-Karlovsky, C. 1988. Indo-Europeans: A Near-Eastern Perspective. *Quarterly Review of Archaeology* 9(1): 1-10.
- Mackay, E.J.H. 1938. *Further Excavations at Mohenjo-daro*. 2 vols. Delhi: Government of India.
- Mallory, J.P. 1989. *In Search of Indo-Europeans*. London: Thames and Hudson.



- Marshall, John. 1931. *Mohenjo-daro and the Indus Civilization*. London: Arthur Probsthain.
- Misra, V.N. 1994. Indus Civilization and the R̥gvedic Sarasvatī. In Asko Parpola et al. (eds.), *South Asian Archaeology 1993*, pp. 511-25. Helsinki.
- Mughal, M. Rafique. 1972. Excavation at Jalilpur. *Pakistan Archaeology*, No. 8, pp. 117-24.
- . 1974. New Evidence of the Early Harappan Culture from Jalilpur, *Pakistan Archaeology*, 27(2): 106-13.
- . 1992. Jhukar and Late Harappan Cultural Mosaic of the Greater Indus Valley. In C. Jarrige (ed.), *South Asian Archaeology 1989*, pp. 213-21. Madison, Wisconsin: Prehistory Press.
- . 1997. *Ancient Cholistan*. Rawalpindi: Ferozesons (Pvt.) Ltd.
- Muller, F. Max. 1890, reprint 1979. *Physical Religion*. New Delhi: Asian Educational Services.
- Nath, Amarendra. 1997-98. A Harappan Metropolis in the Sarassvatī-Driṣadvatī Divide. *Purātattva*, 28: 39-45.
- . 1998-99. Further Excavations at Rakhigarhi. *Purātattva*, 29: 46-49.
- Nichols, Johanna. 1997a. The Epicentre of the Indo-European Linguistic Spread. In Roger Blench and Mathew Spriggs (eds.), *Archaeology and Language, I*: 122-48. London: Routledge.
- . 1997b. The Eurasian Spread Zone and the Indo-European Dispersal. In Roger Blench and Mathew Spriggs (eds.), *Archaeology and Language, II*. London: Routledge.
- Nyberg, Harri. 1995. The Problem of the Aryans and the Soma: The Botanical Evidence. In G. Erdosy (ed.), *The Indo-Aryans of Ancient South Asia*, pp. 382-406. Berlin: Walter de Gruyter.
- Parpola, Asko. 1993. Margiana and the Aryan Problem. In *IASCCA Information Bulletin*, 19, pp. 41-62. Nauka.
- Piggott, Stuart. 1952. *Prehistoric India*. Harmondsworth, Middlesex: Penguin Books Ltd.
- Possehl, Gregory L. 1996. *The Indus Age: The Writing System*. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.
- Puri, V.M.K. and V.C. Verma. 1998. Glaciological and Geological Source of Vedic Saraswati in the Himalayas. *Itihas Darpan*, Vol. IV, No. 2, pp. 7-36.
- Raikes, Robert. 1968. Kalibangan: Death from Natural Causes. *Antiquity*, XLII: 286-91.
- Rao, L.S., N.B. Sahu, et al. 2005. New Light on the Excavation of Harappan Settlement at Bhirrana. *Purātattva*, No. 35, pp. 60-68.
- . 2006. Bhirrana Excavations – 2005-06. *Purātattva*, No. 36, pp. 45-49.
- Rao, S.R. 1985. *Lothal—A Harappan Port Town (1955-62)*. New Delhi: Archaeological Survey of India.

- Renfrew, C. 1988. *Archaeology and Language*. New York: Cambridge University Press.
- . 1999. Time Depth, Convergence Theory, and Innovation in Proto-Indo-European: 'Old Europe' as a PIE Linguistic Area. *Journal of Indo-European Studies* 27 (3-4): 258-93.
- Sarianidi, V.I. 1993a. Margiana and the Indo-Iranian World. *South Asian Archaeology*, Vol. II, pp. 667-80.
- . 1993b. Margiana in the Ancient Orient. In *IASCCA Information Bulletin*, 19, pp. 5-28. Nauka.
- Shaffer, J.G. and D.A. Lichtenstein. 1999. Migration, Philology and South Asian Archaeology. In Johannes Bronkhorst and Madhav M. Deshpande (eds.), *Aryan and Non-Aryan in South Asia*, pp. 239-56. Harvard University.
- Sharma, A.K. 1993. The Harappan Horse was Buried under Dune of *Purātattva*, 23: 30-34.
- Sharma, R.S. 1999. *Advent of the Aryans in India*. New Delhi: Manohar.
- Shinde, Vasant et al. 2010. *Harappan Necropolis at Farmana in the Ghaggar Basin*. New Delhi: Indian Archaeological Society.
- Singh, Bhagwan. 1995. *The Vedic Harappans*. New Delhi: Aditya Prakashan.
- Thapar, Romila. 1988-91. In *Journal of Asiatic Society of Bombay*, Vol. 64-66.
- Vats, M.S. 1940. *Excavations at Harappa*. Delhi: Government of India. 2 vols.
- Vivekanand Swami. 1970-73. *The Complete Works of Swami Vivekanand*. 5 vols. Calcutta: Advaita Ashram.
- Wheeler, R.E.M. 1947. Harappa 1946: The Defences and Cemetery R 37. *Ancient India*, 3: 58-130.
- . 1968. *The Indus Civilization*, 3rd edn. Cambridge University Press.
- Yash Pal et al. 1984. Remote Sensing of the 'Lost' Sarasvati River. In B.B. Lal et al. (eds.), *Frontiers of the Indus Civilization*, pp. 491-97. New Delhi: Books and Books.





Index

**'Aryan Invasion' of India—A
Total Myth** 10 ff.

**'Aryan Immigration' into India
—Yet Another Myth** 19 ff. and
34 ff.

Aurobindo, Shri

His view that there was no
'Aryan Invasion' of India 2

**B a c t r i a - M a r g i a n a
Archaeological Complex**

The authors of this culture
were not pastoral cattle
breeders, as held by Romila
Thapar and R.S. Sharma. They
built citadels and magnificent

temples, produced superb
objects of art, used seals. Also,
there is no evidence to show
that they were Aryans. More
importantly, no element of
BMAC has been found east of
the Indus, which was the main
region of the Vedic people 19-
33.

Banawali

Situated in District Hissar,
Haryana, it has yielded
remains of Stages II, III and IV.
Interesting is the town-
planning of Stage IV 87 ff.



Bhirrana

Located in Fatehabad District of Haryana. Pit-dwellings, representing Stage I in the evolution of civilization in the Sarasvatī valley. Details of cultural components, including the typical pottery. C-14 dates and chronological horizon, 5th millennium BCE 50 ff.

Stage II in the cultural evolution: Inhabitants give up pit-dwellings and start building on land surface. Other cultural features 61

Bisht, R.S.

Excavator of Banawali 88

Cholistan Region (Pakistan)

Explorations revealed the earliest settlements in the Sarasvatī valley, like those at Bhirrana. Typical pottery (Hakra Ware) and other cultural remains 57 ff.

Continuity of Indian Civilization

It has been held by some scholars, including Mortimer Wheeler, that the Harappan Civilization became extinct. While no doubt the urban features of this civilization were on their downward journey after circa 2000 BCE, the basal, down-to-earth, features continued to live on and are traceable even today. These include agricultural practices, rituals, worship of Śiva, application of *sindūra* by ladies, certain games, bed-side stories told by grandmothers, etc. 156 ff.

Danino, Michel

Author of the *Lost River: On the Trail of the Sarasvatī* 48

Demoule, Jean-Paul

His sarcastic remark on theories regarding the home of Indo-Europeans 3

Dhalewan

Located in Mansa District, Panjab. Remains of Stages II, III and IV 71

Dravidian-speaking people

The theory that these people were the authors of the Harappan Civilization is utterly unsustainable 11 ff.

Earliest agricultural field

Discovered at Kalibangan and associated with Stage III, this is the earliest (first quarter of the 3rd millennium BCE) agricultural field met with in an excavation 81 ff.

Earliest earthquake

Discovered at Kalibangan and marking the end of Stage III (circa 2700 BCE), this is the earliest earthquake recorded in an excavation 83 ff.

Emigration of some Vedic people to the west

There is literary as well as archaeological evidence to suggest that in the 2nd millennium BCE some Vedic people migrated as far west as present-day Turkey, via Afghanistan, Iran and Ararat. The literary evidence is provided by the *Baudhāyana Śrautasūtra* and the archaeological evidence by the Bogazkoy treaty 126 ff.

Farmana

Located in Rohtak District of Haryana, it has yielded remains of three types of Harappan burials 107

Fire-altars

Fire-altars discovered at Kalibangan had some ritualistic association and were not used for cooking, as thought by Possehl 135 ff.

Flam, Louis

Identifies the Nara of Sindh (Pakistan) as a continuum of the ancient Sarasvatī 45-46

Gamkrelidze and Ivanov

Are of the view that the area between Black Sea and Caspian Sea was the original home of the Indo-Europeans; this view also does not hold scrutiny 5

Gimbutas, Maria

Holds that the Kurgan Culture of Central Asia represents the earliest Indo-Europeans; this view also untenable as indicated by Renfrew and Kathrin Krell 5

Habib, Irfan and Faiz Habib

Wrongly identify the Rigvedic Sarasvatī with the Helmand of Afghanistan 44

Hemphill, B.E., and his colleagues

Categorically state that between 4,500 BCE and 800 BCE no new people entered India; hence no scope for any 'Aryan Invasion' or 'Aryan Immigration' 17

Jones, Sir William

His views on similarities between Sanskrit, Greek and Latin 1-2

Joshi, J.P.

One of the excavators of Kalibangan 72

Kalibangan

Located in Hanumangarh District, Rajasthan. Excavated by B.B. Lal, B.K. Thapar and J.P. Joshi 72 ff.

Settlement of Stage III, characterized by a peripheral wall around the settlement. Other cultural constituents, including pottery, lithic and metal tools. Earliest agricultural field. Abandonment of occupation because of an earthquake around 2700 BCE. C-14 dates and chronological horizon of Stage III 72-87

Settlement of Stage IV 89 ff. Citadel, fortified, having two parts: southern, with platforms bearing ritualistic features and northern having residential houses of priests/elites. Lower Town, also fortified, with north-south and east-west streets and house-blocks. Characteristic pottery, seals, sealings, copper objects, etc. Disposal of the dead 103 ff. Social stratification 113-115. Chronological horizon 115-117

Khatri, J.S. and M. Acharya

Excavators of Kunal 56



Kunal

Located in Hissar District, Haryana. Remains of Stage I in the evolution of civilization in the Sarasvatī valley 56 ff.
 Stage II in the cultural evolution: Inhabitants give up pit-dwellings and start building on land surface. Other cultural components 62 ff.

Lal, B.B.

One of the excavators of Kalibangan 72

Looking forward

Intensive exploration must be carried out in and around the upper basin of the Sarasvatī to find out the ancestry of Stage I (pit-dwellings) of Bhirrana. Also need to carry out excavations in Cholistan region 124-26

Madhu Bala

Excavator of Dhalewan 71

Mallory, J.P.

Sarcastically once (1989) remarked, "One does not ask 'where is the Indo-European Homeland?', but rather 'where do they put it now?'" 6

Mughal, Mohammad Rafique

Explored the Cholistan region 57 ff.

Muller, Max

On an ad-hoc basis he dated the Vedas to 1200 BCE; objections by Goldstucker, Whitney and Wilson; Max Muller finally surrendered, but his fatwa still followed in some quarters 10 ff.

National Council of Educational Research and Training

Has now admitted that 'Aryan Invasion' theory is untenable, but still hangs on to the view that the Vedas are post-Harappan (Preface, p. vii)

Nichols, Johanna

Holds that the dispersal of Indo-European languages commenced from ancient Bactria-Sogdiana region. The thesis still remains to be evaluated 6

Original Home (Urheimat) of Indo-Europeans

Various postulates 2 ff.

Parpola, Asko

According to him, 'a (single) antennae-hilted sword from Bactria paralleling those from Fatehgarh suggests that this same wave of immigrants [from the BMAC] may also have introduced the Gangetic Copper Hoards into India.' The Copper Hoards contain more than a dozen varieties and number in hundreds. Thus, even a beginner in archaeology would say that the single specimen found in Bactria cannot be ancestral to Indian Copper Hoards 31-33

Piggott, Stuart

Supported Wheeler's theory of 'Aryan Invasion'; fallacies in his views 16-17

Possehl, Gregory L.

He is of the view that there is mention of cold-climate flora

in the Vedas, which shows that the Vedic people came from outside. This is a travesty of truth: The entire flora as well as fauna mentioned in the Vedas belong to a tropical climate 34 ff.

He also holds that the 'fire-altars' found at Kalibangan are nothing but features for cooking. There is ample evidence to show that Possehl's stand is entirely wrong 135 ff.

Puri, V.M.K. and B.C. Verma

These geologists clearly establish that the Sarasvatī originated from the glaciers in the Himalayan region 46-48

Rakhigarhi

Located in Hissar District, Haryana. Remains of Stage II 65 ff.

Rao, L.S. and Nandini Bhattacharya-Sahu

Excavators of Bhirrana 51

Renfrew, Colin

Holds that Anatolia was the original home of Indo-Europeans 3. Lamberg-Karlovsky's adverse comments on the same 4
His comments on Maria Gimbuta's theory 5
Debunks the 'Aryan Invasion' theory set forth by Wheeler 18

Rigvedic people, their identity

The date assigned to the Vedas by Max Muller, viz. 1200 BCE, is wrong 10-11. Combined evidence of literature, archaeology, hydrology, and C-14 dating shows that the —

Rigveda is ascribable at least to the 3rd millennium BCE, if not earlier. Hence, the 5th-3rd mill. BCE civilization in the Sarasvatī valley is the product of the Rigvedic people themselves. The latter, therefore, are indigenous and not 'Invaders' or 'Immigrants' 122-23

Sarianidi, Victor I.

Holds that BMAC seals have an Aryan association, which does not hold scrutiny; also wrongly interprets an abandoned horse skeleton as being evidence of *āśvamedha* 25ff.

Shaffer, Jim G. and Diane Lichtenstein

Debunk the 'Aryan Invasion' theory 18

Sharma, R.S.

Opines that the Vedic people were pastoralists who came from the Bactria-Margiana region; this is totally wrong 20
Wrongly identifies the Rigvedic Sarasvatī with the Helmand of Afghanistan 42

Shinde, Vasant et al.

Excavators of Farmana 107

Summary of the findings 124-26

Thapar, B.K.

One of the excavators of Kalibangan 72

Thapar, Romila

Holds that the Vedic people were cattle breeders who came from outside. This is totally wrong 19 ff.



**Vedic-Harappan equation:
Objections against it are
invalid**

Four objections have been raised against a Vedic-Harappan equation. (1) While the Harappan Civilization belongs to the 3rd millennium BCE, the Vedas, according to the estimate of Max Muller, are not earlier than 1200 BCE. (2) Whereas the Harappan Civilization is urban in nature, the culture portrayed in the *Rigveda* is that of nomads. (3) The Vedic people domesticated the horse, but there is no evidence of this

animal in the Harappan remains. (4) Again, whereas the spoked wheel has been referred to in the Vedas, it is absent from the Harappan Civilization.

All these objections are baseless 144 ff.

Vivekananda, Swami

His views against the 'Aryan Invasion' theory 2

Wheeler, Mortimer

Held that there was an 'Aryan Invasion' of India; fallacies in his theory; George F. Dales debunks the supposed massacre at Mohenjo-daro 13 ff.



Notes



--	--	--	--

The
Amir-ud-daula
Public Library
Lucknow.

1. Books borrowed by members (Depositors) may be retained for 14 days only.
2. A fine of 1 Rs. will be charged each day for each volume that is over-due.
3. Borrowers will be held strictly responsible for any damage incurred to books while in their possession

Books by Prof. B.B. Lal



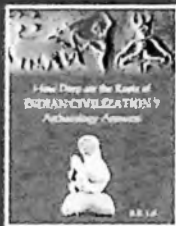
**HISTORICITY OF THE
MAHABHARATA**
Evidence of Literature, Art
& Archaeology

2013; Size: 9" x 7½"; pp. 116;
Illus. (col. & b/w) 42; Index;
ISBN: 978-81-7305-417-4



PIECING TOGETHER
Memoirs of an
Archaeologist

2011; Size: 8½" x 6"; pp. 288;
Illus. (col. & b/w) 55; Index;
ISBN: 978-81-7305-417-4



**HOW DEEP ARE THE
ROOTS OF INDIAN
CIVILIZATION?**
Archaeology Answers

2009; Size: 9" x 7½"; pp. 172;
Illus. (col. & b/w) 104;
Bibliography; Index;
ISBN: 978-81-7305-376-4



**RĀMA: His Historicity,
Mandir and Setu**
Evidence of Literature,
Archaeology and Other
Sciences

2008; Size: 8½" x 6"; pp. 120;
Illus. (col. & b/w) 36;
ISBN: 978-81-7305-345-0



**THE HOMELAND OF
THE ARYANS**
Evidence of Rigvedic Flora
and Fauna & Archaeology

2005; Size: 9" x 7½"; pp. 146;
Illus. (col. & b/w) 40;
Bibliography; Index;
ISBN: 978-81-7305-283-5



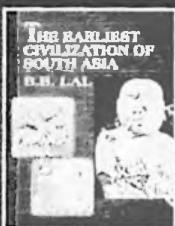
**THE SARASVATĪ
FLOWS ON**
The Continuity of
Indian Culture

2002; Size: 9" x 7½"; pp. 168;
Illus. (col. & b/w) 114;
ISBN: 978-81-7305-202-6



INDIA 1947-1997:
New Light on the Indus
Civilization

1998; Size: 9" x 7½"; pp. 154;
Illus. (col. & b/w) 81;
ISBN: 978-81-7305-129-6



**THE EARLIEST
CIVILIZATION OF
SOUTH ASIA**

1997; Size: 11" x 8½"; pp. 380;
Illus. (col. & b/w) 122;
ISBN: 978-81-7305-100-5

Aryan Books International

Poolja Apartments, 4B, Ansari Road, New Delhi - 110002
Tel.: 2328 7589, 2325 5799; Fax: 91-11-2327 0385
E-mail: aryanbooks@gmail.com
www.aryanbooks.co.in

